University of Zurich[UZH]

The Political Economy of Protest

How the Uneven Distribution of Development and Globalization Gains affects Welfare and Protest

Thesis (cumulative thesis)

presented to the Faculty of Arts and Social Sciences

of the University of Zurich

for the degree of Doctor of Philosophy

by Tabea Palmtag

Accepted in the fall semester 2019

on the recommendation of the doctoral committee composed of

Prof. Dr. Stefanie Walter (main supervisor)

Prof. Lucas Leemann, Ph.D.

Prof. Layna Mosley, Ph.D.

Zurich 2019

Contents

Acknowledgements

Like the political fights of people on the streets that I am interested in, writing this dissertation has often been a struggle for me. Hopes to succeed and change the status-quo are often slim when people protest and at times finishing this thesis seemed equally impossible. My analysis shows that allies are vital in helping people join together and achieve their goals. Similar, I couldn't have finished this thesis without the many people who supported me over the past four years.

First of all, I want thank my supervisor, Stefanie Walter. She encouraged me to pursue this PhD and granted me every freedom to follow my research interests. She has supported my curiosity about who might be left behind in an economically thriving and globalized world and how this affects people's political behavior. Her advice guided me when I ventured into difficulties and tried out new approaches to study what I was interested in. Thank you for your advice and support during this journey. Lucas Leemann joined my commitee during my third year in the department. He became an invaluable source of support, always willing to comment on my dissertation papers, give constructive advice and encourage me to invest a bit more when I thought I had reached a dead end. Thank you for your willingness to concern your brilliant mind with my research ideas and showing me that comments are not a threat but actually the best way forward. Layna Mosley kindly agreed to host me as a visting researcher at the University of North Carolina, Chapel Hill. Thank you for sharing your tremendous expertise on economic globalization and your thorough understanding of the research process. The luxury of focusing solely on coding and writing in Chapel Hill significantly contributed to finishing this dissertation.

I am grateful for a lot of colleagues, friends and my family who were my allies while writing this dissertation. The most important being Thomas, who helped me to figure out R, improved the aestethics of this dissertation and helped with innumerable other things. Most importantly, he showed me that it is a privilege to work on my own research. I would have given up many times without you, thank you for always being there for me! Claude helped me to navigate my way through writing this dissertation but also through life in

general. I look forward to continuing this journey. Marco shares my passion for fights and understands my despair when I fear that I might fail, thank you for making me feel safe. Celine is a great friend from whom I learned a lot and feel that I can rely on, thank you for all our conversations and being such a good listener. My colleagues at the chair for International Relations and International Political Economy have always provided support and helpful input. Tobias made my arrival in Zurich so much easier, supported my research interests and is a great co-author and scholar in general, thank you for all the coffee breaks and evenings we shared. Nils is the person I followed to Zurich, thank you for being an endless source of fun and joy. Lisa Carius-Munz, Daniel Bischof, Valentin Lang, Ari Ray, Garrett Bindig, Judith Spirig, Irene Menendez, Loriana Crasnic, Martina Zahno and Raphael Reinke all supported this dissertation in many ways, thanks for everything. My family provided a great counterbalance to my work in Zurich. Mila knows how to make me forget about all difficult things in an instance. Nikola always reminds me that I am never alone, which is an invaluable gift. My mother still understands how to make me feel at home and my father is certainly familiar with struggle as well. I am very grateful that we still stick together.

Chapter 1

Synopsis

1.1 Introduction

During the last days of writing this dissertation the Ecuadorian president had to declare a national state of emergency as protests erupted when the government tried to pass a law that ends decades of fuel subsidies. While directly affected taxi and bus drivers were the first ones to call for the abolishment of the reform package including the end of fuel subsidies, they were quickly joined by unions, students and other social groups. With growing crowds the protests sustained over days and even became violent, threatening the stability of a country that has long been plagued by periods of instability and protests that in the past led to the ousting of several presidents.[1] Last year, teachers in Senegal organized a country-wide strike and protested their working conditions for weeks (Zanoletti, 2018), and South Africa still remembers the shooting of striking platinum mining workers in Marikana 2011, a rural area close to Johannesburg.[2] Their struggle for decent working conditions and wages is still ongoing; just at the beginning of this year another strike occured with more than 300 workers spending several days underground protested ongoing sackings in the mining sector.[3] In Niger, the protest wave of 2010 led to the ousting of President Mamadou. Even though international media reported it as an uprising for democracy, protesters were mainly concerned with their dire economic situation due to constantly rising living costs (Mueller, 2013).[4]

Protests countering economic policies, working conditions, lack of employment opportunities and living costs in general have become more widespread across many developing and emerging countries over the past number of years. This reflects the overall proliferation of

[1] https://www.theguardian.com/world/2019/oct/03/ecuador-state-of-emergency-fuel-subsidies-protest

[2] https://www.theguardian.com/world/2014/aug/15/-sp-south-africa-platinum-mining-massacre-strike

[3] https://www.aljazeera.com/news/2019/06/south-africa-strike-miners-stand-harassment-190627113636255.html

[4] https://www.washingtonpost.com/news/monkey-cage/wp/2018/03/26/nigers-protests-are-ramping-up-heres-why/

I am grateful to Stefanie Walter, Valentin Lang, Céline Colombo and Thomas Willi for their very helpful comments on the structure and substance of this introduction.

protests in these countries (ACLED, 2019). The rising number of protests and strikes addressing people's dissatisfaction with their economic conditions are apparently at odds with the massive economic catch-up process of developing countries worldwide. Their relative share of global GDP is increasing and economic growth in these countries has surpassed that of advanced economies for a considerable period of time (OECD Development Centre, 2010; Fosu, 2010). Over the past 20 years GDP per capita in low- and middle income countries has more than doubled, simultaneously the average life expectancy has increased by more than 5 years (UNDP, 2013). This positive development also applies to the world's poorest region, Sub-Saharan Africa, where countries like Nigeria and Kenya have become economic strongholds. At the same time the international economic integration of these countries has advanced significantly. Despite the volatility of international markets, exemplified by the 2009 financial crisis, developing countries have been able to double their volumes of trade in goods in the past decade (UNCTAD, 2017). Similarly, this group of countries became more attractive to international capital flows, which are a decisive substitute for the lack of domestic capital (UNCTAD, 2017). After decades of overall low levels of foreign capital inflows plagued by tremendous fluctuations, there has been a clear upward trend since the economic crisis (OECD Development Centre, 2010). With these three big economic transformations for developing countries in the era of globalization - economic development, international trade and foreign investment - the economic outlook for many developing countries is now more positive than it has been for decades.

So why do we see rising levels of protest conveying the message of discontented citizens just when the economic prospects in many developing countries are improving? One possible answer is to dismiss material explanations of people's political attitudes and behavior altogether and instead attribute the increase in protest to changing values and political culture (Hainmueller and Hiscox, 2006). However, this seems to be premature, given the explicit economic demands of protesters for higher wages, better employment conditions and affordable costs of living. Another approach is to attribute the increasing number of demonstrations and strikes to exactly these positive economic developments, which produce the resources necessary for political action (McCarthy and Zald, 1977). While this explanation corresponds to previous findings on higher protest levels in more affluent countries (Auvinen, 1997; Dalton, Van Sickle and Weldon, 2010), it overlooks, besides the explicit

economic grievances of protesters, two important caveats to the overall positive economic trends in developing countries: large areas of these countries as well as substantial parts of the population still remain relatively poor. Clearly, aggregate economic trajectories conceal variation in economic conditions within countries and cannot tell us exactly who profits and who is left behind in terms of economic development and openness, let alone how this affects people's attitudes and behavior. Therefore, another explanation for the increasing rate of protests despite these economic transformations could be that rapidly improving economic conditions throughout the developing world create inequalities within countries, because the gains from growth and integration are not distributed equally. Thus, the rising number of protests could result from the uneven distribution of economic gain in societies. Against this background this dissertation studies economic drivers of protest (behavior) in developing and emerging countries.

The important point disguised by these aggregate statistics is that development and international integration are unevenly distributed within countries. This applies to the distribution across both space and individuals. First, economic transformations, like rising national GDPs and higher trade volumes, conceal spatial disparities in economic development levels and the varying extent of international integration at the sub-national level (Kanbur and Venables, 2005). Often, countries simultaneously have regions that are heavily industrialized and internationally integrated and areas that remain disconnected from international markets and stagnate at low development levels (Kanbur and Venables, 2005; Burgess and Venables, 2004). Existing literature on the link between the economy and protest is rich, but has focused on the relationship with national economic conditions (Auvinen, 1997; Bussmann, Scheuthle and Schneider, 2006; Robertson and Teitelbaum, 2011; Berazneva and Lee, 2013; Hendrix and Haggard, 2015; Karakaya, 2016). Similar, research on the economic drivers of individual protest behavior has linked it to economic conditions at the country level (Dalton, Van Sickle and Weldon, 2010; Kern, Marien and Hooghe, 2015; Dodson, 2015; Solt, 2015; Grasso and Giugni, 2016). Only very few studies of protest have accounted for sub-national variation of economic factors (Raleigh, 2015; Almeida, 2012; Christensen, 2019). Yet, there is a growing literature that emphasizes the importance of *local* economic conditions for individual political behavior (Dippel et al., 2016; Colantone and Stanig, 2018*a*; Alkon, 2017; Isaksson and Kotsadam, 2018*b*; Knutsen et al., 2017). This dissertation connects to the

localized accounts of individual political behavior and asks how *local* and *regional* economic conditions affect protest (behavior).

Second, the gains of rising development levels and international integration are unevenly distributed across people, exemplified by the joint growth of income inequality (Alvaredo et al., 2018). Reports suggest that large parts of the population worldwide now live in societies that are more unequal than two decades ago, with the most depressing effects occurring in developing countries that have been the front-runners of economic development (UNDP, 2013). South Africa, for example, a very successful developing country, is amongst the most unequal countries worldwide and while Latin America and Sub-Saharan Africa have 'caught up' economically, these regions experience the highest level of inequality worldwide (Mueller, 2018). The joint rise of economic development and inequality in the majority of developing countries refutes the promise that 'a rising tide lifts all boats'.[5] On the contrary, many boats are left behind and societies marked by high levels of inequality could be breeding grounds for protest and social instability (Davies, 1962; Gurr, 1970). Being disadvantaged in highly unequal societies may give rise to grievances about the distribution of economic opportunities, welfare and living conditions, that motivate people to protest.

While the importance of economic dissatisfaction as an explanation for why people demonstrate has often been contested (Dalton, Van Sickle and Weldon, 2010; Brush, 1996; Gurney and Tierney, 1982), new research in the context of developed economies has re-emphasized how economic grievances can drive political action. At times of dire economic conditions, the public is more likely to take to the streets with the contention that it is bearing the costs of the financial crisis (Kriesi, 2012; Grasso and Giugni, 2016; Bernburg, 2015; Rüdig and Karyotis, 2014; Kern, Marien and Hooghe, 2015). Deteriorating economic prospects seem to induce the type of economic grievances that motivate people to protest, both in advanced and developing economies(Kurer et al., 2018; Mueller, 2013). This dissertation picks up on the re-emerging importance of economic grievances and dissatisfaction for protest behavior and assesses how economic transformations and their distributive consequences affect people's *subjective* perceptions of their material situation.

[5]This phrase has been accredited to John F. Kennedy, who used it first during a speech in Arkansas in 1963 (https://www.presidency.ucsb.edu/documents/remarks-heber-springs-arkansas-the-dedication-greers-ferry-dam). It reflects the famous prediction of Kuznets (1973) that even though societies become more unequal when their economic development level rises, inequality declines and everyone profits after reaching a certain level of development.

Overall, the dissertation is structured into two steps to scrutinize the links between economic development, international trade, foreign investment and protest. First, it assesses if and for whom economic development, international trade and foreign investment create or alleviate economic grievances. To do so, it focuses on the individual level, subjective distributive effects of these economic forces. These subjective perceptions are the main drivers of political behavior in general and protest in particular (Langer and Smedts, 2013; Justino and Martorano, 2016). To understand precisely who perceives that they profit or lose out, all papers of the cumulative dissertation account for the sub-national variation of economic transformations and heterogeneous distributive effects of local economic conditions. *Figure 1.1* shows how Chapter 2 of this dissertation focuses on the disparate effects of local development levels and asks who perceives that their boat has been left behind and whose subjective economic situation is positive. Notwithstanding the importance of mobilization and opportunity to protest, people without a cause are highly unlikely to participate in protest. By carefully assessing the perceived distributive effects of economic conditions, we are one step closer to understanding if and how varying economic conditions affect protest (behavior).

Second, the dissertation not only traces who *wants* to protest, but also takes into account that people need to be *able* to demonstrate (McCarthy and Zald, 1977; Meyer and Minkoff, 2004). It reflects recent empirical findings that show how grievances and societal context together affect protest participation (Shadmehr, 2014; Kriesi, 2012; Kurer et al., 2018). Therefore, Chapters 3 and 4 model both how economic conditions create material grievances and the regional or local economic context in which these grievances are either mobilized or remain inert (Nicholls, Miller and Beaumont, 2013; Traag, Quax and Sloot, 2017). In particular, Chapter 3 shows that appeasing the social group that is generally most active in protesting leads to less participation despite the uneven distribution of economic gains. On the other hand, Chapter 4 highlights that a high share of aggrieved people may nevertheless overcome the hurdle of collective action. Tracing for whom economic development, trade and FDI create economic grievances and in which local contexts these grievances are mobilized sheds light on the puzzling joint rise of economic conditions and protest in developing countries and helps us to understand whether positive economic trajectories could nevertheless threaten political stability.

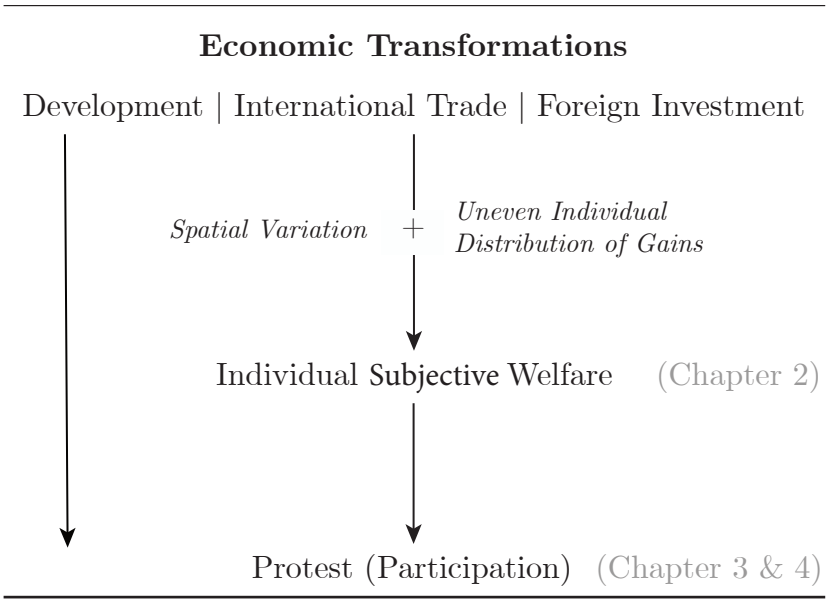


FIGURE 1.1: Overview of Argument and Structure of the Dissertation

1.2 Argument

The argument put forward in this thesis regarding the relationship between economic conditions and protest centers around the localized and heterogeneous distributive effects of economic development, trade and foreign investment and how these economic conditions also affect the local context, which fosters or hinders mobilization to protest. Therefore, the first section of the argument lays out the substantial and fine-grained variation of economic conditions within countries. It argues that in economies that are tremendously fragmented we must look to the local context to understand the economic conditions to which people are exposed. It then traces how local economic conditions determine the demand for labor, which in turn affects whether people feel that they profit or remain economically disadvantaged. The next section of the argument suggests that these economic grievances can be mobilized in specific contexts, where either a majority is aggrieved or political entrepreneurs take up the task to mobilize aggrieved people. If economic losers are in the minority or they are not mobilized in their communities they remain silent. The argument therefore suggests that the heterogeneous distributive effects of development, trade and investment either instill or inhibit protest depending on their distributive effects and the societal context.

1.2.1 Varying Local Economic Conditions and their Distributive Effects

When the economy takes a hit workers fear pressure on their wages or are even faced with the threat of job loss. When people live in an economically less developed region, they must sustain their livelihood through smallholder farming since there is no thriving firm to employ them. When a multinational company invests in a community they hire some people but not all, which means that some are able to secure well-paying jobs, while others are stuck with the income they had before the investor arrived. Distributive effects are common to development, trade and foreign investment and all of these economic transformations affect the material well-being of people.

The argument developed here builds on the assumption that the distributional consequences of these economic forces affect people's perceived material well-being. I build on this basic assumption and propose two factors that condition the effect of economic development, trade and investment. First, economic conditions vary and only affect people conditional to geographical exposure. This refers to whether people live in a highly or less developed area, in a community with or without foreign investment and also concerns their region's exposure to international competition. And second, local economic conditions create both winners and losers depending on the fit of individual skills to local labor market demands.

The first condition, 'geographical exposure', is important due to the spatial clustering of economic activity. Variation of economic conditions across regions, cities and neighborhoods within the same country often far exceeds differences across national borders (Kanbur and Venables, 2005). We know that economic development and growth, as well as outflow and inflow of goods, services and capital are often confined to a few growing cities or economically dominant regions (Venables, 2005). Empirical evidence shows that regions that are more 'endowed' in terms of resources, infrastructure and accessibility in the first place, tend to develop faster, attract investment from multinational firms and become hubs for international trade in goods and services (Rivas, 2007; Chiquiar, 2005; Démurger et al., 2002). These advantages are reinforced by increasing returns to scale and transport costs which further the agglomeration of firms, suppliers and workers in few selected places and increase spatial inequality (Krugman, 1991, 1996). The international integration of countries also furthers the deepening of these spatial disparities (Rodríguez-Pose, 2003).

Figure 1.2 visualizes these spatial disparities for South Africa. The illustration relies on illumination during night hours recorded by weather satellites. Research has shown how this highly disaggregated source of data is a reliable and accurate proxy for the economic conditions at regional and neighborhood level (Weidmann and Schutte, 2017; Mellander et al., 2015). With a GDP per capita of more than 7,200$ and a growth rate of more than 7% in 2010, South Africa was the most economically advanced country in Sub-Saharan Africa. Despite these shiny numbers, large parts of the country remain dark during the night, meaning that the economic activity in these places is relatively low. Economic activity is clustered and varies dramatically within this country that is successful overall.

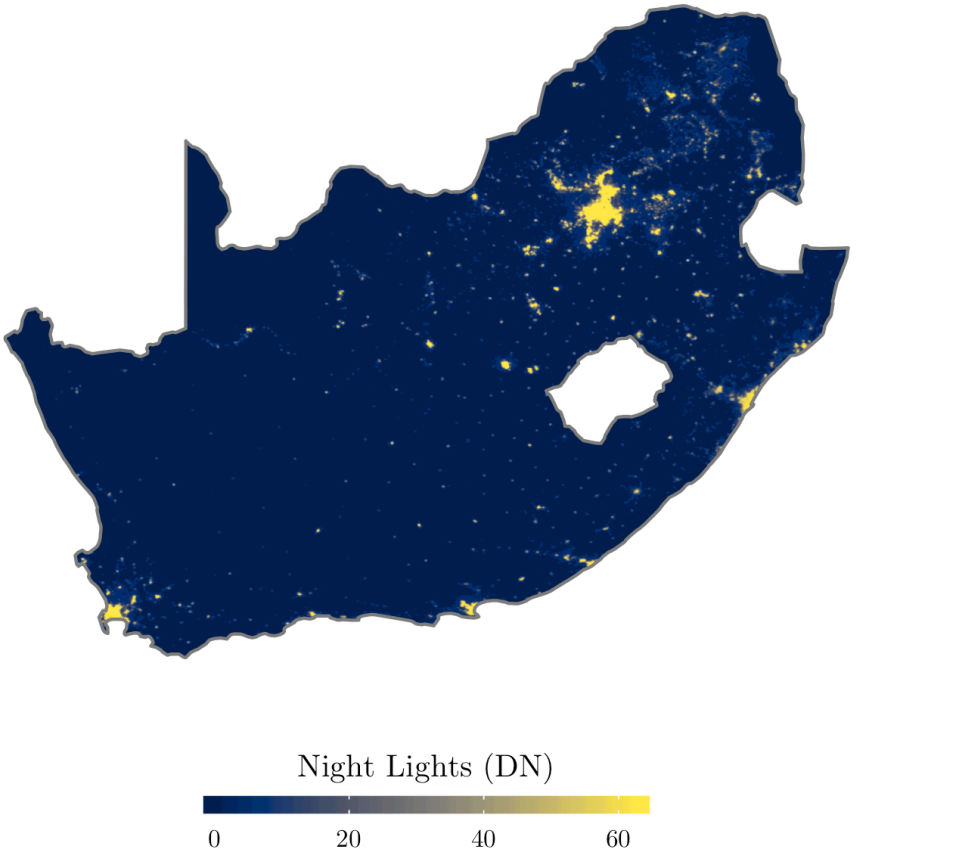


FIGURE 1.2: Night lights for South Africa in 2010. Lighter cells show areas with more illumination emitted during night time, recorded on a scale from 0 DN (places without any night light) to 63 DN (maximum illumination that can be recorded). Data for night lights from National Geophysical Data Center (2012).

A myriad of studies show that these spatial disparities affect people's economic situation, in particular the wages they can receive (Lin, 2003; te Velde and Morrissey, 2003*b*; Fally, Paillacar and Terra, 2010; Amiti and Cameron, 2007; Head and Mayer, 2006; Breinlich, 2006;

Hanson, 2005). Similarly, spatial inequalities are an important factor explaining existing income inequality (Korpi, 2008; Isserman, Feser and Warren, 2009). In line with the empirical findings that underline the importance of accounting for these disparities when analyzing the individual level effects of economic conditions, this dissertation puts forward a new notion of exposure to economic transformations. In essence, I propose that the specific degree of economic transformation in the environment where people live, i.e. high local economic development level or low level of regional exposure to international competition, determines the distribution of individual gains, which affects people's perceived economic welfare.

Macroeconomic models stress that individual exposure works through being employed in a sector (Frieden and Rogowski, 1996) or firm (Helpman, Itskhoki and Redding, 2010) that faces international competition. In contrast, I propose that there is an often neglected but nevertheless important and necessary condition for being exposed to an economic condition: living in a community or region where the particular economic transformation, be it economic development or international integration, is actually present. Why is it important whether people live in a community that is highly integrated into international markets or remains sheltered from international competition? And similarly, whether people live in an area with a relatively low or high level of development?

Research on mobility and commuting patterns shows that the distance people can cover on a daily basis to generate income is limited. The average commuting time to work across countries and time is roughly one hour (Marchetti, 1994). While this means that people who can use superior infrastructure such as motorized transport can cover greater distances, they tend to be confined to a certain local area around their home (Kung et al., 2014). These local areas and their economies are the environments in which the large majority of people earn their living, e.g. through wage employment or by selling products. The economic conditions in these local areas therefore directly affect the material well-being of people.

So far the argument proposes that the economic conditions that matter for people, whether the level of development or the extent of exposure to international competition, are local. I also argue, however, that not everyone living in the same local context, with the same economic conditions, is equally affected. While there is no consensus in the literature as to who wins and who loses from economic development (Partridge, Rickman and Levernier, 1996; Cutler and Katz, 1992; Dollar and Kraay, 2002; Dollar, Kleineberg and Kraay,

2016) or trade and investment (Goldberg and Pavcnik, 2005; Richardson, 1995; Feenstra and Hanson, 1997; Hanson and Harrison, 1999; Ha, 2012; Helpman et al., 2017), scholars agree that these economic conditions exert substantive distributive consequences.

The second part of my argument suggests that the distributive effects of these economic conditions run through their impact on local demand for labor. People are affected differently depending on the match of their individual skill set to local labor market demands. Local economic conditions determine the relative demand for labor: Demand in an area that is heavily engaged in international trade, with many exporting firms is not only higher than in areas unconnected to international markets; the type of labor that is demanded in thriving, internationally integrated environments differs as well. Research shows that international integration shifts demand in favor of more skilled workers (Richardson, 1995). Greater demand for skilled labor also means that these workers have better opportunities to gain employment and receive higher wages. Thus, if exposed to international competition, skill determines who wins and who loses (Walter, 2010, 2017; Rommel, 2018; Helpman, Itskhoki and Redding, 2010).[6] The same shift in demand for labor occurs when the economy develops. At low levels of development a dominant primary sector does not require high-skilled workers. Development moves economic activity to manufacturing and services and these sectors require on average more skilled workers (Herrendorf, Rogerson and Valentinyi, 2014; Lee and Wolpin, 2006). People whose skill set matches the local demand for labor, determined by the level of development and the extent of international integration, find work and command a good salary. Those who do not fit the local labor market demands have difficulties securing employment and eventually lose out.

All arguments made in the following three chapters of this dissertation build on the simple premise that only people who are 'geographically exposed' to high levels of development and integration feel their uneven distributive effects. Within these local economies, those who do not fit the labor market demands are economically dissatisfied and aggrieved, while those who match the demand, the winners, are satisfied with their economic situation. These economic grievances then affect people's likelihood to participate in protest.

[6]The growing demand for skilled labor, increasing employment opportunities and competitive salaries characteristics of open economies is seen in developing and developed nations alike. This contradicts factoral trade models that expect that the abundant factor, the low-skilled in developing countries, wins (Menendez, Owen and Walter, 2018). Similarly, sectoral models are not able to account for rising wage gaps within exposed and sheltered sectors (Frieden and Rogowski, 1996).

1.2.2 Economic Dissatisfaction, Opportunities and Protest

The next step of the argument contends that we not only need to understand how economic conditions affect economic grievances to know who protests (Gurr, 1970; Davies, 1962). While the first part of the argument, and Chapter 2 in particular, aims to understand who wants to protest, the second part of the argument takes stock of who can protest. It argues that understanding when protest occurs and who actually participates requires an analysis of when people's grievances are mobilized in their social contexts (Kriesi, 2012; Opp, 2009). However, the focus of this dissertation is on the link between local economic conditions and protests. This warrants an argument that acknowledges how these economic conditions and their uneven distributive effects impact the social context, in which people are either mobilized or remain absent.[7] I propose two specific ways in which people can be mobilized that are impacted by the uneven distribution of economic gains. First, people overcome the hurdle of collective action when they perceive their grievance as a wider social problem and expect a large number of similarly aggrieved followers to turn out. And second, they tend to mobilize when their grievances are picked up by political entrepreneurs who organize demonstrations.

The local level of economic development, trade and foreign investment determines whether an individual is economically dissatisfied or content, but the distributive effects of these economic transformations also create other winners and losers. I argue that it is important which social group actually benefits and that the distribution of winners and losers in the local context affects who is able to express their grievances through protest.

The first contextual condition of protest, which social group wins or loses economically, is important as research shows that there is a clear division of labor when it comes to protest. While more educated, middle-class people tend to be generally more active (Bratton, Mattes and Gyimah-Boadi, 2005; Dalton, Van Sickle and Weldon, 2010; Verba, Schlozman and Brady, 1995) and adopt the role of organizers and spokespersons for the protest, the less educated classes are the 'foot soldiers' (Mueller, 2018; Pearlman, 2018). Generally, political entrepreneurs have a decisive role in the process of mobilizing existing grievances and providing opportunities to join protests (Kurer et al., 2018). Going back to the discussion

[7] This does not rule out other important factors that explain the occurrence and frequency of protest, such as the political environment (Tarrow, 2011; Kriesi et al., 1992) or other individual resources (McCarthy and Zald, 1977; Verba, Schlozman and Brady, 1995; Brady, Verba and Lehman Schlozman, 1995).

on the distributive effects of economic development, trade and foreign investment, we would expect that the high-skilled are the main profiteers of higher development and deeper international integration. This means that the rise of these economic forces alleviates economic grievances for the social group that is most prone to participate in and organize protest (Van Aelst and Walgrave, 2001). While some accounts argue that the positive material impact on this group might give rise to other political demands that are expressed through protest (Mueller, 2018), it is disputed as to whether a wealthy and economically secure middle class is not more likely to remain quiet (Bellin, 2010; Nathan, 2016; Rommel, 2018). In addition to this, we would not expect a direct link between a positive change in economic conditions and protest but rather an indirect, delayed impact. And this only applies if these highly skilled people demand greater political influence due to higher development and increased international competition. Thus, the immediate impact of better economic conditions on high-skilled people should be protest-deterring. I argue that this is also consequential for those who are less skilled and miss out on the benefits of development and international openness. While they are aggrieved and want to protest, they are less able to do so, because the high-skilled protest entrepreneurs remain inactive.

While this suggests an overall protest-decreasing effect of improving economic conditions, we argue in Chapter 4 (co-authored with Tobias Rommel and Stefanie Walter) that there is another contextual condition of protest that allows dissatisfied people to overcome the mobilization hurdle. Despite not being able to count on the mobilization efforts of appeased high-skilled workers, they can find their strength in numbers. The distributive effects of economic conditions create not only individual winners or losers, but also determine their ratio in a certain area. Thereby, they influence the relative number of people who want to protest. Research shows that the number of potential allies and similarly aggrieved people is central to understand whether or not we see collective action (Granovetter, 1978). First, the numbers show people whether they can reasonably expect their claims to be heard, which is only the case if enough people are willing to turn out and a certain level of public contestation is reached (Klandermans, 1997; Van Zomeren et al., 2004). And second, high numbers of similarly aggrieved people in close proximity (Sewell, 2001; Traag, Quax and Sloot, 2017) convey the message to the individual that their grievances are legitimate. Outside factors instead of individuals are to blame for grievances, if a sizeable number of people shares them

(Snow, 2013; Van Stekelenburg and Klandermans, 2013). Thus, where the distributive effects of economic conditions create a high ratio of aggrieved economic losers, we should see protest despite the problem of collective action.

The argument connecting appeased winners and aggrieved losers to protest traces how the distributive effects of these economic conditions not only affect individuals separately, but impact the wider social context in which protest occurs. It proposes that the effects of economic conditions on protest behavior depend not only on the existence of economic grievances that determine whether people want to protest, but hinges on the question whether their social context is conducive to becoming active. Chapters 3 and 4 show how foreign investment projects and international trade impact the likelihood of protest and account for both grievances and the opportunity to express them.

1.3 Case Selection and Chapter Summaries

The puzzling joint rise of economic development, international integration and protest in developing countries warrants this dissertation's closer examination of the link between economic conditions and protest (behavior), with a focus on who might be aggrieved despite a prevailing broadly positive economic trend. The following three chapters of this dissertation develop the theoretical argument further and empirically test how local economies affect people's economic grievances and their protest behavior. While the second chapter assesses the link between economic development and subjective welfare, the third chapter tests how international economic integration in the form of foreign direct investment projects affect people's propensity to participate in protest. Both chapters focus on African developing and emerging countries. Selecting African economies as cases to empirically test my argument provide the opportunity to study a wide range of developing countries, with vastly different national and sub-national economic conditions. While the African continent has more least developed countries (LCDs) than any other continent, it is at the same time home to emerging economies such as South Africa and Nigeria. Economic conditions across and within these countries vary widely and so do the economic challenges faced by these countries. Despite their often extremely low levels of GDP the average growth rate of African LCDs is around 5%, reflecting the puzzling observation that protest occurs despite a positive economic trend (Essoungou, 2011). When just in May 2019 the African Continental Free

Trade Area (AfCFTA) came into force, the African states parties to this treaty, created the world's largest free trade zone. Foreign investments have surpassed the amount of aid received by African countries, underlining the importance of this international capital inflow for the selected countries (OECD, 2018). And even though investments are still flowing heavily into extractive industries, a shift toward FDI in services and manufacturing and production for growing local markets is on the way (UNCTAD, 2017). Again, the selected African countries are good examples of the positive economic outlook that seems to be at odds with economically aggrieved and protesting citizens. Similarly, the political contexts in the selected countries differ but reflect the larger universe of developing countries worldwide. The sample encompasses representative democracies such as Botswana, nations plagued by democratic deficits and countries considered to be 'unfree' (Freedom House, 2013). While the sample of countries selected mirror the wider universe of developing countries, the analyses of the two chapters account for any country-level variation and focus on the impact of local economies. Finding an effect of local development and openness on individual grievances and protest behavior in this sample of countries should provide generalizable insights for a large number of developing countries worldwide.

The last chapter looks at the link between economic globalization and protest events. It also underlines how this relationship relies on the distributional consequences of globalization and how they affect individual attitudes and concerns, similar to the aim of the second chapter. It extends the empirical assessment of this link to an emerging market on a different continent, Russia. Russia exemplifies the importance of accounting for sub-national variation of economic conditions. The economic conditions and level of contestation in its 83 regions vary tremendously. Nonetheless, it is another example of a country that is confronted with the joint rise of economic conditions and protest (Bayulgen, 2010). In this regard, it is representative of many emerging economies that have opened up economically and have an encouraging economic outlook but whose citizens nevertheless seem to be troubled by economic grievances. Russia also reflects the political conditions in many emerging countries that are neither outright autocracies nor fully democratic. By focusing on a single country, we can rule out other important explanations for protest, such as the level of repression, freedom of speech, legal regulations of economic openness and opportunity structures or country-level grievances (Robertson, 2007). The results from this case test the generalizability of the

argument, which should be applicable to all developing and emerging countries. Analyzing whether the distributive effects of economic openness also result in grievances and protest in a different context provides further evidence regarding the importance of accounting for subnational variation of economic conditions and heterogeneous distributive effects of economic openness. The results also help us to understand the broader dynamics of political (in-)stability in countries.

By providing evidence about the different steps of the theoretical argument (visualized in *Figure 1.1*) that links economic conditions and political behavior in different contexts, both on the individual and event level, the three contributions jointly emphasize the importance of local economic conditions. They produce evidence relating to link between the heterogeneous distributional consequences of local economies, individual economic grievances and subsequent protest (behavior).

1.3.1 Chapter 2 - Heterogeneous Effects of Local Development

This chapter assesses the first link of the overall argument connecting local economic conditions and the subjective welfare perceptions of people. It starts from the observation that despite tremendous growth and economic development in the past few years, inequality is one the rise and our understanding of how economic development affects people is still limited. In particular, we know little about the subjective effects of economic development, and how people rate their personal welfare at different development stages. This is not only important as welfare perceptions underpin both political attitudes and behavior, but also allows us to evaluate whether economic development - an important policy objective worldwide - really has a positive effect on everyone.

The argument of this chapter suggests that people's welfare perceptions are dependent on the fit of their individual skill set to local labor market demands that change fundamentally depending on the level of economic development. The structural transformation of the economy that accompanies economic development shifts employment opportunities from the agricultural sector to manufacturing and services. However, manufacturing and services require another type of labor to thrive, namely more skilled workers. It follows that the more developed the local community, the higher the demand for skilled, more educated

people. In less developed ares, on the other hand, employment opportunities are fewer and predominantly require less-skilled labor.

This means that the low-skilled only match the labor market demands in less developed environments, here they can sustain their income and are not relatively worse off. In more developed contexts, however, skilled labor is in greater demand, which increases the wage gap between low- and high-skilled workers. Skilled workers gain relatively more, but the mismatch of less-skilled workers to these heightened labor market demands creates dissatisfaction with their material situation. In turn, the less-skilled feel left behind in more developed contexts than in less thriving areas where they are more satisfied. The high-skilled, on the other hand, have a better perception of their welfare in these highly developed contexts where they can gain well-paid employment.

I test this argument for 36 African countries, matching individual survey data with items on perceived living conditions and employment insecurity with a proxy for economic development, night lights. To measure local economic development, which determines the type of labor demanded in the community, it is necessary to use more fine-grained data than official national and regional accounts. Night light is illumination emitted during night hours and is a by-product of weather satellites. It is an accurate and highly disaggregated proxy for economic development. I use the night light data to measure the local economic development level around each respondent. In line with my argument, I interact this local development measure with the individual education level of respondents, approximating their skill level. Following the conditional argument, I expect that the higher the education level and the more developed the local context, the more satisfied are people with their welfare. On the other hand, the less skilled living in a more developed local environment have a greater likelihood to report economic insecurity and dissatisfaction with their living conditions.

I use Bayesian multilevel analysis to test both whether a respondent experiences economic insecurity and how they rate their living conditions. The analysis confirms that the highly-skilled are most dissatisfied with their living conditions at low levels of economic development, while the low-skilled are most insecure in highly developed environments. The results hold across a number of robustness tests, varying the size of the local environment that matters for people, excluding respondents who live in areas with unnaturally high light emission from gas and oil fields, as well as when scrutinizing the effect of economic growth instead of economic

development levels. The findings emphasize the importance of local economic conditions for people's well-being and show the unequal effect of economic development leaving behind large parts of the population.

1.3.2 Chapter 3 - The Effect of FDI on Protest Participation

The third chapter takes the argument one step further and analyzes how international interventions in local economies in the form of foreign direct investment affect people's political behavior. It contributes to the research on the effects of economic globalization in terms of societal stability and analyzes whether investments by foreign multinationals impact the propensity to participate in demonstrations. This is especially important as the newest wave of protest activity in Africa coincides with the growing importance of FDI in these countries, which now even exceeds official development assistance.

I connect FDI with protest participation again through its distributive consequences in the communities where the investment takes place. In line with recent empirical findings on the distributional effects of economic globalization in general and foreign direct investment more specifically, I argue that these multinational firms predominantly require high-skilled people for their production and are willing to pay higher wages for these workers. Thus, the employment situation of well-educated workers in host communities improves substantially, while the demand for less-skilled workers stagnates or even declines when their employers are faced with competition from foreign multinationals.

The particular distributive consequences of foreign direct investment reduce material grievances for the high-skilled and therefore their likelihood to engage in protest. This is of particular relevance with regard to the propensity to participate for all educational groups, as research on protest behavior shows, that organizers of protest are on average well educated and mobilize others to join demonstrations. With this cohort content with the positive material effects of FDI and refraining from organizing protest, other groups - such as the low-skilled who actually could express their grievances on the streets - lack the opportunity to do so. This suggests that foreign direct investment specifically reduces protest participation by highly-educated skilled workers, but also works against the mobilization of the less-skilled, given that the group that organizes protest now abstains.

I test this argument by newly matching geolocated FDI project data and individual survey data from African countries. By matching FDI projects and individual respondents I can measure who is 'exposed' to this economic force in terms of living in a community that hosts an FDI project. Using a difference-in-difference design, I reference people in areas with ongoing FDI projects against respondents who live in a community that is going to host a project in the future, but which hasn't been implemented yet. Similar to the second chapter, the argument requires an interaction between the presence of an FDI project and the individual education level of the respondent. I expect that the likelihood of experiencing economic grievances and subsequently engaging in protest decreases most for highly educated FDI-exposed respondents. The less educated, on the other hand should be more concerned about their employment situation when FDI flows in, nevertheless, their participation rate should not pick up, as opportunities to join strikes and demonstrations are less numerous.

The results of the analysis confirm that well-educated people in particular are less likely to report protest participation after FDI projects are implemented in their communities. Despite persisting worries about employment and wages for the less educated when living in communities which host FDI projects, their propensity to protest is not substantially higher. This suggests that while economic grievances might be induced by FDI, they also need to be mobilized in order to result in protest participation, which seems to be missing in these FDI host communities. The results show that even though FDI creates both winners and losers it has an overall positive effect on social stability due to its specific distributional effects favoring the societal group that organizes and mobilizes for protest.

1.3.3 Chapter 4 - International Trade and Public Protest

with Tobias Rommel and Stefanie Walter

The final chapter picks up on the question raised in the third chapter connecting economic globalization and domestic political stability. However, it mainly does so on a more aggregated level and tests how regional exposure to international trade affects the occurrence of protest events in Russia. Russia is a country in which the importance of accounting for spatial disparities cannot be overstated. Its regions are tremendously different, especially with regard to economic conditions and exposure to economic globalization. If we want to understand whether international openness affects protest, we need to account for such

disparate conditions. We must also spell out clearly how these economic determinants create both winners and losers, inducing economic grievances that ultimately threaten social stability.

We argue, in line with the theoretical arguments made in the previous chapters, that economic globalization and protest are linked through the distributional consequences of international trade. Building on empirical evidence of rising wage gaps in emerging countries and innovations in modern trade theory, we argue that international trade increases disparities between high and low skilled people exposed to globalization. In regions with a relatively low-skilled population, international trade amplifies economic grievances. Less skilled workers in exposed regions cannot profit from economic globalization and international competition puts pressure on their wages and increases the threat of unemployment. Regions with a high-skilled workforce, however, profit when they open up to international trade. In turn, political discontent in regions where the low-skilled losers of trade make up the majority of the population rises with increasing exposure to international trade, whereas it has a pacifying effect on regions dominated by the winners of free trade, the high-skilled. When regions are dominated by economically disadvantaged citizens, the likelihood of protest rises, as the pool of potential protesters and followers is significantly higher than in regions that have little to no exposure or where people that profit from openness dominate. In these exposed regions with a highly skilled workforce international trade should decrease the number of protests.

We examine this argument, focusing on variation in both trade exposure and protest prevalence in Russian regions using negative binomial regression models on data from 2007-2012. In line with the other chapters, arguing for the same distributive consequences favoring the highly skilled, we use an interaction between regional education levels and the intensity of exposure to international trade to test our argument about the destabilizing effect of economic globalization in regions with a less-skilled workforce. In addition to that, we test the underlying mechanism that connects trade and protest via its distributive effects and economic grievances and analyze whether international trade affects unemployment rates and average wages differently in regions with a differently skilled populace. Last, we add an individual level analysis, which tests how individual skill, proxied by the respondent's

education, and regional exposure to trade can result in perceptions of economic difficulties that can be deemed economic grievances.

The results of the analysis confirm that average education levels in the regions of Russia indeed condition the effect of trade intensity on protest frequency. While high exposure to international trade leads to more protests in regions with low average education levels, it has a pacifying effect in regions that are equally exposed to international competition but in which residents are well-educated. We also find that the regional wage and unemployment level vary depending on both average education levels and exposure to trade, with regions with a high-skilled working force profiting economically. The individual level results confirm that poorly educated Russians face more economic difficulties when they live in regions exposed to trade, whereas well-educated people are able to profit economically and experience more economic security in the face of economic globalization.

The findings of this chapter confirm two important stipulations of this dissertation; first, they show both on the regional and individual level that the distributive effects of economic conditions do not affect all people alike. International trade, similarly to foreign direct investment as well as economic development, creates both winners and losers and if we want to understand how these economic determinants affect people's attitudes and behavior we need to account for the varying impacts of economic conditions. Second, the results underline the importance of accounting for subnational variation in both economic and political conditions to understand the precise link between economic openness and social stability. Last, the findings confirm again that skill, which is acquired through education, is a central attribute of people that determines whether they can profit or are left behind when the economy opens up or grows.

1.4 Summary and Implications

The three chapters jointly provide substantial evidence for the importance of accounting for spatial disparities of economic conditions and analyzing thoroughly how economic grievances and protest behavior are connected to geographically varying economic conditions. Data limitations in terms of availability of individual wages in the survey data used in the second and third chapter, or the lack of a survey item on individual protest participation in the case of the fourth chapter on Russia should caution us against premature claims that distributive

effects are the only possible pathway from economic conditions to grievances and protest behavior. The same cautionary note on the importance and impact of economic conditions and their distributive effects relates to the ever present challenge of identifying the impact of economic conditions. However, this dissertation aims to call attention to the simple fact that people live in very different, confined economic environments where they need to make a living. Whether and how well they are able to sustain their livelihood depends on local economic conditions. The combined results of the chapters of this dissertation also alert us that not everyone profits identically from economic development and globalization. Finally, the findings finally show that despite the uneven distributive effects of development, trade and foreign investment, people only protest if their social context is conducive to mobilizing their grievances.

1.4.1 Implications for Research

First, researchers cannot treat spatial economic disparities as mere nuisances of how the economy works. The propensity of spatial clustering of economic activities in certain areas of a country and the importance of agglomeration effects for economic actors also lead to vastly different economic realities for people living in the same country. These disparate economic conditions impact people's attitudes and behavior and are therefore important for the study of political attitudes and behavior more broadly. Local economies impact not only the social fabric of communities (Autor, Dorn and Hanson, 2019), democratic values (Ballard-Rosa et al., 2017), support for international integration (Colantone and Stanig, 2018*a*; Broz, Frieden and Weymouth, 2019), and voting behavior of citizens (Dippel et al., 2016; Colantone and Stanig, 2018*b*) and constituents (Feigenbaum and Hall, 2015). They are decisive breeding grounds for economic dissatisfaction (Chapter 2) and provide the social context in which these grievances either remain unaddressed (Chapter 3) or are mobilized (Chapter 4).

Clearly, the disaggregation of national economic conditions can provide a fruitful avenue for further research into the political behavior of people. In this regard, Chapters 2 and 3 of this dissertation showcase new empirical approaches to link disaggregated data on economic conditions and individual attitudes and behavior (Kotsadam and Tolonen, 2016; Knutsen et al., 2017; Isaksson and Kotsadam, 2018*a*,*b*). They rely on the availability of georeferenced

economic proxies, such as night lights (Weidmann and Schutte, 2017), and the efforts to add longitude and latitude to political events data and individual survey data (BenYishay, Parks, Runfola, Tanner, Trichler, Heuser, Dolan, Batra, Goodman and Anand, 2017). Geographical information is now also available for a number of economic activities, such as the location of active oil and gas fields (Lujala, Buhaug and Gates, 2009), active and inactive mining sites (Christensen, 2019) and foreign direct investment projects (Owen, 2019). Researchers will have even more opportunities to geographically link both political and economic data at different levels of disaggregation in the future. Making use of these data sources and research strategies could help us to represent our integrated but highly disparate world more accurately.

Second, even though recent contributions have raised doubts about the importance of material effects for individual attitudes (Hainmueller and Hiscox, 2006; Mansfield and Mutz, 2009), the combined evidence of this dissertation suggests that we should continue to both theorize and test the distributive effects of economic conditions and their importance for people. The results presented here show that the material implications of trade, FDI and economic development matter for people. They build on clear expectations about the heterogeneous effects of economic conditions that are in line with empirical evidence on rising inequality and wage gaps, as well as theoretical advances (Walter, 2017; Helpman, Itskhoki and Redding, 2010; Melitz, 2003). Even if we think that the link to political attitudes and behavior does not run through the material effects of economic conditions, the importance of knowing who profits and who might be left behind both objectively and subjectively should matter greatly to scholars interested in the equality and cohesion of societies at large.

The uneven distributive effects of economic development, trade and foreign investment have been recorded by numerous reports of international organizations (for example, UNDP (2013)) and noted by a vast scientific literature (for an overview see Anderson (2005)). Researchers interested in the relationship between economic conditions and political behavior should consider these heterogeneous distributive effects and think about the implications for the political phenomenon of interest they study. The controversy on economic drivers of contentious political events such as civil war (Christensen, 2019; Magee and Massoud, 2011; Sorens and Ruger, 2014; Barbieri and Reuveny, 2005; Blanton and Apodaca, 2007; Flaten and de Soysa, 2012; Hegre, Gissinger and Gleditsch, 2003; Hartzell, Hoddie and Bauer, 2010;

Nieman, 2011) and protest (Dodson, 2015; Robertson and Teitelbaum, 2011; Christensen, 2019; Hendrix and Haggard, 2015; Bussmann, Scheuthle and Schneider, 2006; Karakaya, 2016) could profit from a more explicit engagement with the distributive effects of development, trade and foreign investment that can help to make sense of hugely contradictory findings.

The findings of this dissertation also draw attention to the importance of perceived, subjective effects of economic conditions. These perceptions are not necessarily the same as objective effects (Tibesigwa, Visser and Hodkinson, 2016), but they matter most for people as their subjective views create the grievances that are decisive for their actions (Langer and Smedts, 2013). Data limitations in the individual survey data does not allow us to draw conclusions about the objective distributive effects of economic development or globalization, however, the results show that these economic conditions clearly impact perceived economic well-being. Political science research interested in the relationship of inequality and political behavior, such as the vast literature on horizontal inequalities and civil war (Langer and Mikami, 2013) but also less violent forms of behavior such as protest (Justino and Martorano, 2016), has just started to acknowledge this potential gap between subjective and objective inequalities. With the growing number of individual-level surveys fielded worldwide, scholars have a huge opportunity to ask people both about their perceived well-being and subjective inequalities as well as their objective material situation and clarify further whether the two overlap, when they diverge, and which of the two is decisive for subsequent political attitudes and behavior. Even if this is not the predominant research interest, studies should be clear on why they use perceptions or objective data and how that impacts their findings.

Third, the results of Chapters 3 and 4 warrant a closer look at the conditions in which economic grievances are mobilized or remain unexpressed. They clearly show that scholars of contentious political behavior need to take into account both motivation and opportunity to understand if and when people become active (Kriesi, 2012; Kurer et al., 2018; Grasso and Giugni, 2016). While the conditions that enable people to express their demands through collective action might differ substantively, the two chapters suggest that economic conditions not only impact grievances but also the social context in which they are mobilized. A rigorous focus on the link between economic conditions and protest profits from also describ-

ing and assessing how the distribution of gains and losses across social groups and across local contexts impedes or fosters protest.

1.4.2 Policy Implications

The findings of this dissertation also have important implications for various policy areas in developing countries. Chapter 2 speaks to the importance of taking a critical look at the goals being pursued by developing countries worldwide. While the Sustainable Development Goals adopted in a joint resolution of all member states of the United Nations in 2015 recognize the importance of battling growing economic inequality, they still maintain that growth is the means to create employment opportunities for everyone (United Nations General Assembly, 2015). This means for example that the aim is to achieve at least a 7 percent annual growth in GDP for LCDs. However, the results of Chapter 2 suggest that the twin goals of growth and equality might be incompatible, if policy makers do not ensure that everyone can profit. As of now, the positive effect of higher development on material living conditions seems to bypass large parts of the population. In contrast, those who cannot participate adequately in more developed economies feel that they are left behind and they perceive worse of their economic conditions. States need to re-evaluate which goals are fundamental and which might have to be adjusted in order to honor the pledge that 'no one will be left behind'.[8].

One step to achieve these ambitious goals is to analyze and address the spatial disparities that dominate the economies of developing countries even more than in advanced economies. While governments cannot move mountains or invent access to ports in landlocked countries and will have similar difficulty dissolving the forces of agglomeration, spatial inequality contributes significantly to overall inequality (Kanbur and Venables, 2005). Spatial disparities of economic conditions need our attention, especially if they fall together with ethnic and political inequality and further destabilization of regions and countries. Potential interventions include infrastructure programs that connect remote areas (Escobal and Torero, 2015) and place-based compensation measures for economically lagging regions (Rodríguez-Pose, 2018; Busso, Gregory and Kline, 2013). Such interventions have been more prominent in the US, Europe and Asia but might also provide a tool for developing countries worldwide to tackle this challenge (Kline and Moretti, 2014).

[8] see https://www.un.org/development/desa/en/news/sustainable/leaving-no-one-behind.html

The second, important policy implication relates to finding that educational attainment is key to profit from improving economic conditions and globalization. Economic development and globalization affect the demand for labor in one particular direction; toward more skilled workers. Therefore, education remains the most important way to ensure that people are able to benefit and subsequently participate constructively in their local communities and wider societies. If educational differences in developing and emerging countries persist and large parts of the population continue to lack access to higher education, we will most likely see a widening gap in perceived economic well-being; indeed, millions of people will feel they have been left behind in a growing, internationally integrated economy. While the universal developing goals of 2000, the MDGs, advocated for universal primary education, this is only a small step in the direction of 'leaving no one behind'. The results presented here show that economies and labor markets in developing countries require high-skilled workers. Only higher education provides people with the tools to be successful in thriving, globally competing economies.

Third, the studies presented here should remind us that economic forces have substantial distributive effects that are not naturally geared toward ensuring equality and social stability. In contrast, governments must provide the means with which we can shape the impact of these economic determinants on people, not only by providing universal access to high-quality education but also by cushioning the negative effects with social welfare programs (Rudra, 2004). Spatial inequalities and the uneven distribution of economic inequalities will not disappear overnight, even if governments worldwide make it their prime goal. Therefore, governments in developing countries should invest in social welfare programs instead of cutting them back or only targeting their own clientele (Rudra and Haggard, 2005; Rudra, 2002). After all, redistributive policies remain a direct way to help the losers of development and globalization to sustain their livelihood and participate in their societies.

The uneven distribution of development and globalization gains in developing and emerging countries is strikingly similar to that observed in advanced economies (Walter, 2010; Rommel and Walter, 2018). The necessity to create societies where everyone can thrive and participate politically, despite these heterogeneous effects, thus poses similar challenges worldwide. Importantly, governments need to understand more clearly what happens to citizens who feel that they are left behind economically and how these perceptions can be

reversed. Recent studies in industrialized countries have highlighted the problem of the declining middle class, which is an essential stabilizer of democracies (Kurer, 2018). The results of Chapter 3 highlight that economic gains for that middle class can have a protest-deterring, stabilizing effect on communities. However, we should not forget those at the bottom end of society. Particularly in developing and emerging countries, huge parts of the population remain relatively impoverished and cut-off from access to high-quality education. These people still often lack individual resources, such as literacy, information, transportation and income, to protest, but are deeply dissatisfied with their economic situation (Mueller, 2018). Chapter 4 suggests that a critical number of such aggrieved economic losers in a region can overcome collective action problems and protest becomes more prevalent. Policy makers in developing countries should be interested in adopting preventive measures to undercut the threat of increasing numbers of economically disenfranchised people who might at some point threaten social stability.

The examples of aggrieved, protesting citizens and workers at the beginning of this synopsis seemed to be puzzling given the positive economic trajectories of developing countries worldwide. But if we look beyond these glossy numbers, the spatial disparities and uneven distribution of gains can help us to make sense of the joint rise of economic outlook and protest. The Marikana mining protests show that it is often low-skilled labor that is exploited and economically insecure in a globalized economy. And protesters who criticize rising costs of living can be reconciled with a growing economy if we understand that not everyone profits when economies develop. The social implications of growing (subjective) disparities are substantial and far reaching. They could not only affect social stability by igniting widespread protest, but lead to apathy and the retreat from political engagement by certain societal groups (Solt, 2008) or still result in more violent forms of political resistance (Hartzell, Hoddie and Bauer, 2010; Nieman, 2011). There is huge uncertainty about the direction the pendulum swings, if this problematic social situation is not addressed. Policy makers and researchers alike should be interested in preventing both social instability in the form of growing and more violent conflict, as well as a situation in which parts of the population are apathetic and refrain from voicing their interests in the political process.

Chapter 2

Unequal We Feel

Heterogeneous Effects of Local Development in Africa

Abstract

Evaluating the effect of economic development is often done by measuring its impact on poverty and inequality with little regard for how economic development affects perceived individual welfare. However, people's welfare perceptions are crucial as they underpin both political attitudes and behavior. I argue that perceived well-being is dependent on the fit of local labor market demands that change with economic development and people's skill sets. A mismatch results in poor welfare perceptions of the highly-skilled living in areas of low development and low-skilled workers in the most developed areas. To measure the development levels of people's local economic environments, I combine geocoded Afrobarometer survey data and night lights. Bayesian multilevel analysis confirms that the highly-skilled are most dissatisfied with their living conditions at low levels of economic development, while the low-skilled are most insecure in highly developed environments. These findings emphasize the importance of local economic conditions on people's well-being and show the unequal effect of economic development leaving behind large parts of the population.

Acknowledgments

I would like to thank Thomas Willi, Lucas Leemann, Layna Mosley, Anita Gohdes and Stefanie Walter for their comments and suggestions. Earlier versions of this paper were presented at the Annual MPSA Conference 2019, the SVPW Annual Conference 2018 and the Publication Seminar of the Political Science Department at the University of Zurich. I would like to thank all participants for their very helpful comments on this paper.

2.1 Motivation

Developing countries worldwide promote economic development to reduce poverty and improve the living standards of the population, albeit with mixed results. Concerns remain about the poor being left behind and attendant rising inequality (Ahmed et al., 2007; Ravallion, 2016; Alvaredo et al., 2018; Kim, 2008; Kanbur and Venables, 2005). Yet, to understand the effects of economic development comprehensively, we should not only assess its objective effects but also gauge how it affects citizens' perceptions of their own well-being. At the same time, we need to account for the vastly different economic conditions to which people are exposed despite living in the same country, and focus on the impact of the development levels of people's local communities when linking development to individual perceptions and attitudes.

This paper, therefore, analyzes the effect of economic development from a novel angle and asks how *local* economic development affects *subjective* economic welfare. It builds on the link between economic development, the structural transformation of the economy, and the accompanying shift in the relative demand for skilled labor. In essence, I argue that individual welfare perceptions depend on the (mis)match of people's skills and local demand, which is determined by the development level of the local area. Assessing the subjective effects of development is not only important to judge the success of development strategies, but it can help us understand the economic conditions that give rise to personal welfare (dis)satisfaction underpinning political attitudes (Tilley, Neundorf and Hobolt, 2018; Healy, Persson and Snowberg, 2017), behavior and conflict (Gurr, 1970; Bernburg, 2015; Grasso and Giugni, 2016).

Prior research shows that economic development and growth do not affect the distribution of income in society (Dollar, Kleineberg and Kraay, 2016; Dollar and Kraay, 2002; Ravallion and Chen, 1996; Bruno, Ravallion and Squire, 1998). However, existing inequalities perpetuate disproportionate growth benefits for the rich and overall neutral effects can potentially mask the fact that people are differently affected by economic development (Ravallion, 2001). But if we understand economic development as a means to improve people's livelihoods, we should clarify its repercussions for the subjective well-being of people and not only test its effect on objective indicators. Particularly since research shows that the two can differ substantially (Graham, 2005). Paradoxically, studies show a missing long-term link between

economic growth and overall happiness, but find that the rich are nevertheless happier than the poor (Easterlin et al., 2010; Easterlin, 2005, 1995; Sacks, Stevenson and Wolfers, 2013; Stevenson and Wolfers, 2008). While explicitly focusing on the subjective effects of economic development, this literature analyzes happiness with life more generally and only a handful of studies focus on developing and emerging countries (Graham and Pettinato, 2002).

In addition, the majority of research analyzing the effects of development have neglected the large variation in economic development within countries (Burgess and Venables, 2004). Growth and economic development cluster (Porter, 2000; Venables, 2005) and are often confined to urban and coastal areas (Annez and Buckley, 2009; Gallup, Sachs and Mellinger, 1999). In turn, regions within countries are very differently developed and individuals within the same country are exposed to disparate economic conditions (Kanbur and Venables, 2005). My focus on local development also echoes recent developments in the political behavior literature that pay attention to local economic conditions in developed democracies (Larsen et al., 2019; Healy and Lenz, 2017; Enos, 2016; Reeves and Gimpel, 2012; Hopkins and King, 2010; Johnston and Pattie, 2001). Taking spatial disparities and local economic conditions into account is especially important in developing and emerging nations as variation in economic conditions is much more pronounced compared to developed economies (Kim, 2008).

Therefore, this chapter focuses on local development and how it affects the structure of the economy and labor market demand in people's local communities. At low development levels, the economy is characterized by small-scale agriculture and uncompetitive manufacturing, predominantly requiring low-skilled labor input (Cypher and Dietz, 2009). With higher economic development, the structure of the economy changes, manufacturing and services become more important and the demand for labor shifts to more skilled workers. The increased demand for skilled labor should also result in a more pronounced wage gap between high- and low-skilled labor.

Therefore, we see a mismatch of relative demand for labor in less developed areas and the skills of the well-educated. For this cohort it is much more difficult or nearly impossible to generate the same income compared to highly-skilled individuals in thriving areas, where skilled labor is in greater demand. Therefore, the economic outlook of this group should be higher the more developed the area they live in. For people with low educational attainments

this mismatch occurs in more developed economic environments. While more educated people can benefit, the demand for less skilled workers does not increase proportionately. Their perceived welfare should thus be less pronounced at higher development levels. Less-skilled workers living in thriving areas, with larger wage gaps, feel left behind.

The empirical analysis tests how the local economic development level affects two central aspects of subjective economic welfare, perceived employment insecurity and living conditions in conjunction with individual skill sets. It is possible to analyze the impact of the development level of people's immediate environments by newly combining geolocated survey data and night lights, a highly disaggregated and reliable proxy for economic conditions (Weidmann and Schutte, 2017; Mellander et al., 2015). The geocoded survey data allows for the identification of the precise locations of respondents and approximate the economic environment in which they generate their income. The development level of these individualized environments is measured by extracting the nighttime illumination of each individual economic context. This original combination of data sources provides the unique opportunity to assess how the specific local economic context shapes individual welfare perceptions. The results show, as expected, that only highly-skilled people benefit from thriving economic environments - they feel economically secure and are satisfied with their welfare. In contrast, job insecurity and lower perceptions of economic well-being hit low-skilled workers in more developed surroundings.

Overall, the results presented here show the diverse effects of *local* economic conditions on individuals and how certain groups in society feel left behind when the economy thrives. They also warrant additional scrutiny when assessing the relationship between the economy and political phenomena such as political stability, turnout (Lehoucq and Wall, 2004; Stockemer, 2015), protest (Bussmann, Scheuthle and Schneider, 2006; Robertson and Teitelbaum, 2011), or even civil war (Bussmann and Schneider, 2007; Hegre, Gissinger and Gleditsch, 2003; Elbadawi and Hegre, 2008). When the link between economy and politics relies on individual level effects of economic development, trade, or investment we need to account for the potentially uneven distribution of gains and how these might affect our assumptions about the aggregate relationship. My findings reiterate the importance of local conditions and should caution us against simply linking national economic conditions to individual perceptions and behavior without accounting for the conditions people experience directly

(Larsen et al., 2019). With huge within-country differences, we need to understand more thoroughly which economic conditions really affect individuals and asses their specific effects on people's attitudes.

2.2 The Distributive Effects of Economic Development

My argument suggests that economic development affects subjective economic welfare through its impact on labor market dynamics. Welfare perceptions are in turn dependent on the match of labor market demands and individual skills: when people participate in labor markets that value and reward their skill set, they rate their welfare higher than when they live in areas where the labor market demand differs from the skills they posses. In essence, it is the relative demand for skilled labor in local labor markets that affects perceptions of economic well-being. This emphasizes the importance of local economic conditions rather than more distant, aggregate economic conditions. I first describe how economic development and structural transformation go together and how they affect the relative demand for skilled labor. In a second step, I lay out how the subjective welfare of individuals is affected by labor market dynamics that result from different development stages.

2.2.1 Economic Development, Structural Transformation, and Demand for Labor

In general, economic activities comprise the production and transaction of goods and services. When the economic activity of developing countries grows, this process coincides with the structural transformation of the economy, meaning the reallocation of economic activity away from agriculture to manufacturing and services (Kuznets, 1973; Chenery, 1960). The shift away from agriculture is accompanied by the introduction of new technologies in manufacturing and services. This transformation process is often accompanied by further international integration, the facilitation of technology transfer, foreign direct investment, and international trade (McMillan, Rodrik and Verduzco-Gallo, 2014; Goldberg and Pavcnik, 2007). The level of economic development is thus directly linked to the stage of structural transformation of the economy as well as its interconnectedness with other regions and countries.

At low levels of development, agriculture is often the dominant sector with the largest employment share. However, it also tends to be a comparably low productive sector and

income from agriculture remains small (Gollin, Lagakos and Waugh, 2014; Restuccia, Yang and Zhu, 2008). Earning opportunities do not require extensive skill sets and the agricultural sector does not reward or employ highly educated workers. Thus, demand for labor is skewed toward low-skilled, less educated individuals. Skills acquired through education are an essential determinant for the productivity of workers. In other words, different levels of education convey different skill levels and indicate worker productivity (Jones, 2001; Spitz-Oener, 2006). This entails that economies at low development levels largely require low-skilled workers; these are workers without significant educational achievements. These economies, dominated by agriculture and uncompetitive manufacturing, generally provide unfavorable environments for generating generous income and securing economic well-being. More educated individuals, in particular, are likely to find it hard to receive adequate returns on their labor given the lack of demanding, high-skilled jobs.

With rising levels of development, the agricultural employment share decreases and the ratio of workers in the manufacturing and service sector increases (Herrendorf, Rogerson and Valentinyi, 2014). The expansion of the manufacturing and service sector depends on technological innovations, which changes the demand for labor and its allocation across the three broad sectors (Lee and Wolpin, 2006). Both manufacturing and services are more technology intensive compared to agriculture and require more skilled labor input. In addition, productive sectors and firms are more prevalent at higher levels of development. They replace less productive and unprofitable firms that are not fit to compete, especially when markets open up to international competition (Melitz, 2003; Helpman, Itskhoki and Redding, 2010). Overall, the output of the economy grows, technology advances and more goods and services with higher value are produced and traded. The production of these goods and services requires highly-skilled workers. Thus, the demand for labor shifts toward more skilled workers who are, on average, more educated (Topel, 1999; Krueger and Lindahl, 2001).

2.2.2 Labor Market Dynamics, Economic Concerns and Subjective Welfare

Economic development affects labor market dynamics and the relative demand for skilled labor. I argue that people's economic welfare perceptions are dependent on the fit of their individual skills and the local demand for labor. When individual skill levels match the type of labor that is relatively more demanded, people should feel less concerned about their

economic situation. A relative mismatch indicates inadequate or comparably low returns to labor and adverse results in comparison to others in the local labor market. This is important as research shows that social comparison, performed consciously or unconsciously, plays a vital role for perceptions of well-being (Reyes-Garcia et al., 2016; Wolbring, Keuschnigg and Negele, 2013; Knight, 2012). While people can compare their own welfare to different benchmarks (Festinger, 1954), and it is not possible to clearly identify these reference point(s), we know that comparison to others plays a central role in the assessment of income (Ferrer-i-Carbonell, Ada, 2005; Clark and Senik, 2010). Therefore, discrepancies between their own skill level and demand for labor should adversely affect individuals' views of their own welfare.

As pointed out, the economic opportunities in less developed environments are limited: subsistence and smallholder farming or jobs in low productivity manufacturing do not require skilled, educated labor input. Labor market demand is therefore skewed toward low-skilled labor. The wage premium for educated workers is negligible and returns to labor are low across the board. Even well-educated people who could take on more demanding jobs are confined to the limited opportunities provided by these environments. In contrast, labor markets in more developed regions favor well-educated workers with higher productivity. With the shift to manufacturing and services and the increasing use of technology that accompanies this transformation, relative demand for educated labor increases. In economically thriving areas, the wage premium of educated workers increases disproportionately to those of the less educated.

The diverging demand for labor in differently developed environments entails a clear mismatch of relative demand for skilled labor and individuals with high educational achievements in less developed areas. This misfit results in a lack of skill-adequate income opportunities. While it does not preclude highly educated workers from gaining employment, their income opportunities remain limited and it is unlikely that they will earn significantly more than those with low educational attainments in their community. Concerns about appropriate wages and employment opportunities more generally should therefore prevail amongst the highly educated in these environments. In contrast, educated workers in well-developed environments benefit from the higher demand for skilled labor and related income opportunities. Meeting the skill requirements of the labor market they are able to secure employment and

appropriate income. Therefore, they should be less concerned about their economic situation than their counterparts in less developed areas. With more favorable employment opportunities and higher income in thriving environments that allow this group to reap the benefits of their investment in education, they should also be more satisfied with their economic welfare in general.

People with low educational attainment, on the other hand, should be favored by the demand for labor in less developed environments. Income might be difficult to sustain overall, but these less developed labor markets predominantly offer employment opportunities that fit the skill level of less educated people. In turn, economic insecurity for this group should be lower in less developed areas than in booming environments. Here, the relative demand for labor does not comply with skill level. The disproportionate demand for educated labor results in a bigger wage gap between the high- and low-skilled compared to less developed labor markets. Living in these more developed environments might not directly deteriorate the economic situation of low-skilled labor, however, the relative demand for skilled labor and resulting wage gap changes the benchmark for assessing their economic welfare. Despite living in thriving environments, they are not able to benefit to the same extent as other, more educated, people. Welfare perceptions of the less educated should therefore be less favorable the greater the economic development level of their environment. While living in more developed environments might not directly worsen their economic situation, they are left behind compared to better educated people in these areas.

Overall, this suggests that the level of development and corresponding labor market demand should affect perceived economic welfare differently depending on people's educational achievements. The economic development level of people's environments determines whose labor is valued and who is relatively more rewarded for their work. Less developed areas only require low-skilled workers and returns to labor are generally low. Here, economic concerns should be widespread but especially pronounced amongst well-educated people and their subjective economic welfare should be lower compared to when living in more developed areas. In these booming environments income trajectories diverge based on skill, as demand for educated labor increases. With this disparate development the less educated fall behind compared to others in their direct environment. Thus, they should be less satisfied with their economic welfare the higher the development level of their surroundings.

2.3 Research Design

2.3.1 Local Economic Development

My argument suggests that changes in the level of economic development are accompanied by alterations to the economic structure and labor markets. However, the economic development is 'lumpy' and economic conditions do not change uniformly but vary substantially not only across, but within, countries (Kanbur and Venables, 2005; Venables, 2005; Kim, 2008). Similarly, structural transformation is often clustered in certain regions (Burgess and Venables, 2004). Therefore, people in the same country often live in very differently developed areas. While some might still be living in environments dominated by small-scale agriculture, others may reside in industrialized, highly developed areas.

Even though perceptions of welfare are not independent of aggregate economic development levels, I argue that we need to focus on the economic conditions and labor markets in more restricted areas around people's place of residence. People usually live at a specific location and while they can commute to engage in economic activities, their daily mobility is limited. 'Marchetti's constant' states that the standard commute across time periods and countries is roughly one hour (Kung et al., 2014; Marchetti, 1994). Thus, the local economic conditions to which people are exposed and the labor market they participate in are limited by the time and corresponding distance they are willing and able to commute.

Figure 2.1 visualizes the concept of local economic environments. First, local environments are dependent on the residential location and encompass the area people are able to commute to on a daily basis. Second, these local environments are not restricted by subnational boundaries, as crossing provincial borders is not costly. People can reside in an economically weak region but might be able to commute to more prosperous areas to earn money. Thus, subnational administrative borders are unsuitable to capture the specific economic environments of individuals. Third, crossing national borders often imposes costs or is sometimes even impossible. Therefore, local environments are confined within national boundaries. The conceptualization of local economic environments takes persistent and substantial within-country variation in economic conditions into account. Thereby, it captures the 'economy' that directly affects people's livelihoods.

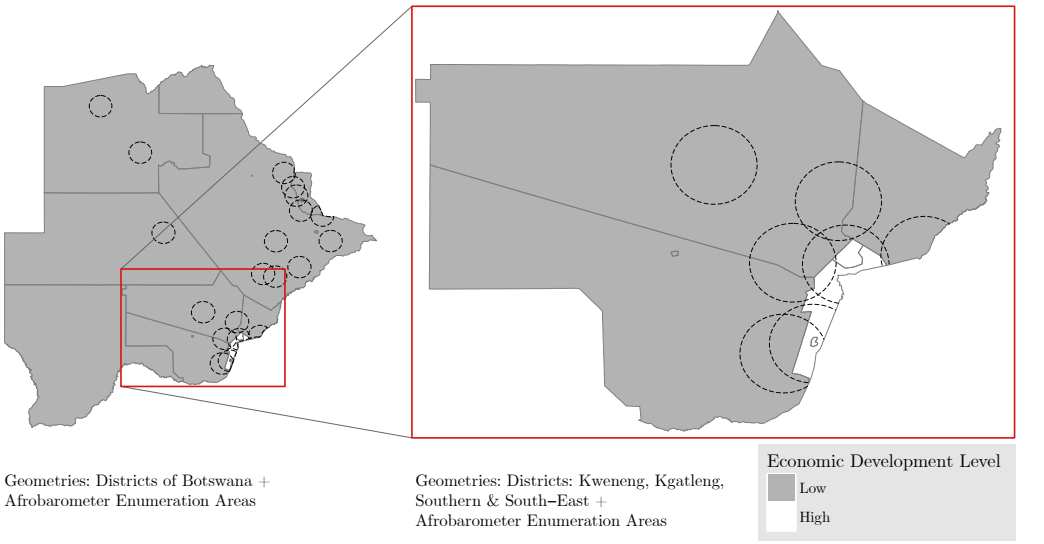


FIGURE 2.1: Local economic environments and varying regional development levels. Circles are Afrobarometer survey clusters with 30 km buffer zones (BenYishay, Rotberg, Wells, Lv, Goodman, Kovacevic and Runfola, 2017), regional development levels based on average night light emissions in these regions (National Geophysical Data Center, 2012).

While economic development levels of advanced industrialized countries also vary within and over time, shifts in the importance of sectors and related demand for labor are far less pronounced than in developing and emerging countries. Therefore, my empirical analysis focuses on 36 African countries characterized by high levels of within-country variation in economic development. Africa is the continent with the largest share of developing, least developed and low-income countries (United Nations/DESA, 2014). While the level of economic development still varies widely between and within the analyzed countries, the overwhelming majority pursues policies to enhance their economic development (Fosu and Ogunleye, 2015). However, a comprehensive analysis of the subjective, individual-level effects of different stages of development is still missing (Diao, Harttgen and McMillan, 2017). Also in light of the unanimous goal of economic development, it is vital to understand the individual-level effects of economic development and analyze whether everyone feels that they can benefit when the economy is better developed or if there is a cohort that feels left behind.

To test the effect of economic development on individual welfare perceptions, I use geocoded individual survey data and combine it with information on local economic conditions. This linkage of individual-level and contextual economic data, tailored to the location of survey respondents, allows for a new and more fine-grained assessment of the

effects of varying economic development levels on perceived individual well-being. I use geocoded survey data from the Afrobarometer between 2002 and 2014 (2nd to 6th wave)[1]. The Afrobarometer data is one of very few high quality individual survey data sources from developing and emerging countries, extending over several waves and countries, with readily available and reliable geocoding. It provides a representative cross-section of citizens aged 18 and older for up to 36 African countries.[2] The survey data was geocoded by assigning longitude and latitude to the survey clusters of respondents (BenYishay, Rotberg, Wells, Lv, Goodman, Kovacevic and Runfola, 2017). Each survey cluster represents the smallest geographical census unit from which respondents are sampled. Respondents were assigned longitude and latitude from the centers of their respective cluster.[3] Overall, 182,937 respondents are clustered in 13,156 survey clusters, with on average 113 clusters per country and year.

2.3.2 Outcome Variables: Employment Insecurity and Living Conditions

Local development levels and perceived economic welfare are linked via the (mis)match of local labor market dynamics and respondents' skill sets. It suggests that concerns about people's economic situation depend on the interaction of individual skill or education and the local development level. While subjective economic welfare is not directly measurable, I analyze how economic development affects two core aspects of economic welfare: employment insecurity and reported living conditions of respondents.

The employment insecurity measure captures concerns about either unemployment or labor wage. My argument suggests that these worries should vary depending on the extent of a mismatch of labor market demand and individual skill in differently developed environments. Employment insecurity is measured with an item asking respondents about the most pressing problem that should be addressed. Respondents can list up to three problems and are not limited to prescribed issues. Answers are categorized into overarching issue areas such as 'Health', 'War', or 'Loans/Credit'. Overall, respondents' answers are categorized into

[1]The first wave of the Afrobarometer is excluded as central items are not included or the wording is not comparable.

[2]The 36 African countries included in the survey are Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Ivory Coast, Egypt, Gabon, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, and Zimbabwe.

[3]I exclude 818 respondents whose survey cluster could not be precisely geocoded. The detailed procedure of geocoding the survey data is documented by the AidData Research and Evaluation Unit (2017).

more than 50 issue areas. Respondents who mention either 'Wages, income and salaries', or 'Unemployment' as their most severe concerns experience employment insecurity (1). All other answer categories are not primarily concerned with job security (0). Roughly 26% of respondents report being concerned about wages or unemployment while the remainder are not predominantly worried about employment insecurity. This operationalization of employment insecurity only captures income or job-related worries. Other economic concerns such as 'Poverty', 'Food shortage', or 'Social Welfare' are excluded from the employment insecurity measure. While employment insecurity is arguably closely related to other economic worries, this conservative operationalization captures people who clearly prioritize this problem. For perceived economic insecurity, I expect a negative interaction effect: respondents should feel less insecure the higher their skill level and the more developed the local environment.

The second outcome variable measures perceived economic welfare more generally. Here, I operationalize perceived welfare with an item on self-reported living conditions, asking respondents 'to describe their own present living conditions'. The answer scale ranges from 'Very Bad' (1) to 'Very Good' (5). In contrast to generic satisfaction with life or happiness questions, reported living conditions should capture the perceived economic or material well-being of respondents more specifically. Around 20% of respondents reported 'Very Bad' present living conditions, another 29% state that their living conditions are 'Bad'. 21% of answers fall into the undecided category of 'Neither Good nor Bad', 26% report that their living conditions are 'Good', while only 4% perceive their living condition as 'Very Good'. The distribution of reported living conditions is a little skewed with slightly more negative assessments of living conditions in the least developed quarter of environments than in the most developed. While over half of respondents rate their living conditions as 'Very Bad' or 'Bad' in the former, only 44% of answers from the latter areas are in those categories. Roughly 29% of respondents living in these most developed areas report 'Very Good' or 'Good' living conditions, while only a quarter place themselves in these two answer categories when living in the least developed local environments. According to the theoretical argument, higher economic development should ameliorate perceived living conditions of highly-skilled individuals but have a negative effect on the assessments of low-skilled respondents. This implies the positive interaction effect of skills and local development on perceived living conditions.

2.3.3 Explanatory Variables: Measuring Local Economic Development and Individual Education

To test how the subjective welfare is affected by local development levels in conjunction with individual education, I measure both the economic development level of the environment in which the individual is living and their education or skill level. To measure the local economic development level it is necessary to approximate people's specific economic environment. The size of these local economic environments is constrained by people's (daily) mobility. Research on commuting patterns in African countries shows that mobility is limited and commuting is relatively time-consuming. While average commuting distances vary, they rarely exceed 30 km (Bryceson, Mbara and Maunder, 2003; Moselakgomo, Mokonyama and Okonta, 2017). Therefore, I calculate a 30 km buffer zone around the location of each respondent. For robustness checks, I also use 10 and 50 km buffer zones, as well as dynamic buffers.[4] All local environments are clipped at national borders to account for the costs associated with crossing these boundaries.

Official national or subnational economic data is not sufficiently disaggregated and flexible to measure the development levels of these customized local environments. Therefore, I use night light emissions, the illumination recorded during nighttime, as a proxy for economic development. There are two main advantages to this proxy: First, night lights have a very high resolution and can be used to measure the economic development of customized areas or environments. Second, using night lights avoids relying on national statistics with limited data quality. Particularly in developing countries, differing methodologies and motivations to collect official economic data, such as national GDP, lead to serious measurement discrepancies and unreliable data accounts (Proville, Zavala-Araiza and Wagner, 2017; Jerven, 2013). Night lights have been used and validated as a proxy for economic activity and development in the conflict literature (Kuhn and Weidmann, 2015; Cederman, Weidmann and Bormann, 2015; Weidmann and Schutte, 2017). However, the use of this fine-grained data source is to my knowledge new to the research on individual-level perceptions and attitudes. Using this type of proxy might be an avenue to reconcile the concept and measurement of individual-level research interested in the consequences of economic conditions.

[4] Dynamic buffer zones are calculated using information on the accessibility of respondents' location. Weiss et al. (2018) provide global accessibility raster data with information on travel time to cities. Buffer zones were scaled from 10 to 100 km based on the accessibility values of the raster of the enumeration area.

Night lights are a powerful proxy for economic activity: They are highly correlated to countries' economic output in GDP (Elvidge et al., 1997; Chen and Nordhaus, 2011; Proville, Zavala-Araiza and Wagner, 2017) and capture economic activity and the development of subnational units (Lessmann and Seidel, 2017; Henderson, Storeygard and Weil, 2011; Sutton, Elvidge and Ghosh, 2007; Doll, Muller and Morley, 2006; Ebener et al., 2005). Even at neighborhood level, they are a reliable predictor of economic wealth (Weidmann and Schutte, 2017). Night lights are especially useful in developing and emerging countries, where measurement problems of this proxy are limited (Mellander et al., 2015).[5]

The US National Oceanic and Atmospheric Administration provides a time-series of worldwide annual composites of night light emissions by the Defense Meteorological Satellite Program's Operational Linescan System (DMSP-OLS) from 1992 to 2013 (National Geophysical Data Center, 2012). I draw on the 'stable lights' version, which is adjusted for the average amount of time the illumination is detectable and excludes non-stable light sources.[6] The annual raster data has a resolution of 30 arc-seconds, which is approximately one square kilometer at the equator. Values for raster cells range between 0 and 63 'digital number' (DN), a measure for the level of illumination, where 0 DN means that no light was detected in a raster cell and 63 DN is the maximum illumination that can be registered for a raster cell.

Local economic development levels are measured by extracting average emission values for all environments. I use the average emission of night light in the year before the survey was conducted: Average night light is the sum of night light values of all raster cells within the area divided by the number of cells from each environment. The results are visualized in *Figure 2.2* for respondents of the 5th wave, showing differently illuminated local environments. For the analysis all light measures are log-transformed, this corresponds to the transformation of 'traditional' GDP measures. In addition, it accounts for their heavily left-skewed distribution and the expectation that the effect of local economic development on perceived well-being decreases with higher values.

[5] A major constraint of night lights, the problem of 'top-coding', is less common in developing countries (Mellander et al., 2015). Top-coding refers to the restricted range of values (0 to 63 DN) for recording nighttime illumination. Lights much brighter than 63 DN are lumped together with those only reaching the threshold. Differentiation at very high levels of illumination, corresponding to high levels of economic development, is therefore problematic. As the number of areas with very high illumination is lower in developing countries, night lights remain a valuable proxy despite this caveat.

[6] Including country-year fixed effects corrects for fluctuation in satellite measurement across years (Chen and Nordhaus, 2011).

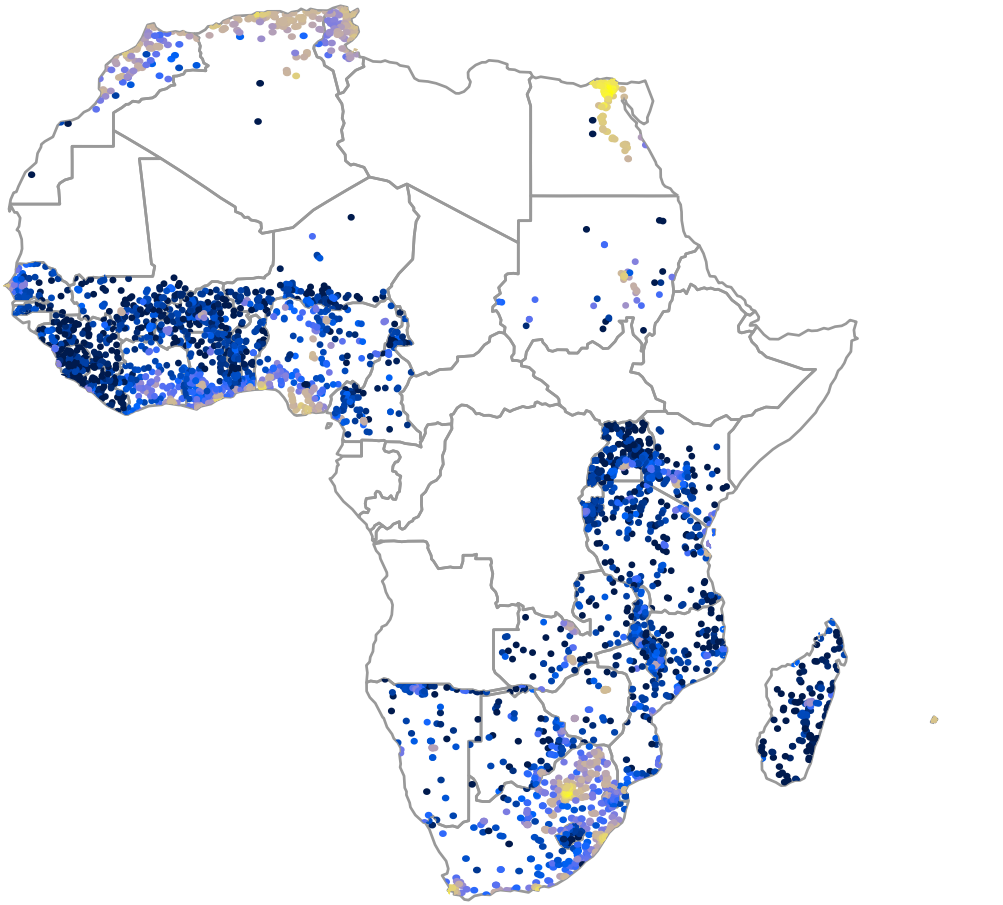


FIGURE 2.2: Night lights for local economic environments. Circles are 30 km buffer zones around Afrobarometer survey clusters filled with average night lights in these areas in 2010 (night light data from National Geophysical Data Center (2012), Afrobarometer survey cluster data from BenYishay, Rotberg, Wells, Lv, Goodman, Kovacevic and Runfola (2017)).

Overall, the average night light illumination for 30 km buffer zones ranges between 0 and 59.88 DN. Zero values are an indicator of areas where no nighttime illumination was detected, e.g. areas without any electrification or deserts. The highest levels of illumination are recorded for environments that encompass large cities. The average variance of lights within countries across all years is roughly 21 DN. The substantial variation of night lights within countries points to the salience of this measure for assessing the effect of spatial variation in economic development. When levels of light emission are split into quartiles, 37% of respondents with no formal schooling live in environments which fall into the first quartile, while only 12% live in the most illuminated quartile of local environments. The distribution of low educated respondents per illumination quartile is comparable, with roughly a third

of respondents in the first two illumination quartiles and approximately 17% in the fourth. Secondary education is most prevalent in the most illuminated environments, 33% of respondents with intermediary education categories reside in these areas. Their share in the first and second quartile is roughly 40% and thus still quite substantial. Having received a university education makes living in highly developed areas more likely; 52% of university-educated respondents live in environments that are part of the most illuminated quartile. Still, 9% of this educational group live in the least developed quartile of environments, while a further 12% reside in the second quartile.

To test the hypothesis of a conditional effect of skill and local development on perceived well-being, individual skill is operationalized with a question asking respondents about 'the highest level of education' they have completed. A number of studies suggest that an increase in years of schooling increases the skills of workers and thus their productivity and related output (Jones, 2001; Krueger and Lindahl, 2001; Topel, 1999). Education is a very general measure of skill and cannot count for sector or task specific skills, as well as on the job training. However, skill specificity is less pronounced in my sample of developing and emerging countries, thus education levels should still adequately measure the skill set of respondents.

The education item has 9 answer categories ranging from 'No formal schooling' (0) to 'Post-graduate' (9). Lower education levels, 1 - 3, encompass 'Informal Schooling', 'Some or Completed Primary School', followed by education levels 4 and 5, referring to some 'Secondary School' and 'Completed High School'. Higher education is depicted with values 6 to 9: 'Post-secondary Qualification', 'Some University Education', 'Completed University', and 'Post-graduate' level. The median education level across countries pertains to those who have completed primary education, but 15% of respondents have not received formal schooling. Over a third of respondents reported low levels of education (1-3). However, the share of people with intermediate education levels (4 and 5) is equally high. Another 14% of respondents have received some sort of university education.

For the analysis, I include individual controls for age, gender, employment status, type of residence (urban or rural), ethnic grievances and the consumption of media in all models. I also control for incidents of lethal violence taking place within the local community in the year before the respondent is interviewed. For this purpose, I use the UCDP Georeferenced Event

Dataset and overlap conflict sites with local environments of Afrobarometer respondents (Sundberg and Melander, 2013). In addition, I control for characteristics of the enumeration areas: Afrobarometer interviewers report available services and the quality of infrastructure of enumeration areas. From items asking about the presence of a post office, public school, police station, a clinic and an official market I construct a services index that ranges from 0 (none of these services are present in the enumeration area) to 5 (all of the services are present in the enumeration area). An infrastructure index is constructed by combining information on whether an electricity grid, piped water system, and sewage system are present in the enumeration area. Additionally, information on the road quality in the enumeration area is included in the infrastructure index. The infrastructure variable ranges from 0 (no electricity grid, piped water and sewage system, and non-tarred roads) to 4 (enumeration area with electricity, piped water, sewage system, and tarred roads).

2.3.4 Estimation Method

Due to the clustered nature of the data, I estimate hierarchical models with random intercepts, with individuals nested in enumeration areas . This entails that a unique intercept parameter is used for each enumeration area, accounting for the diversity of enumeration areas (McElreath, 2016). I use a logit model for the employment insecurity variable and an ordered logit specification for the living conditions variable. The models are defined as follows:

$$
\begin{aligned}
{}^{*} = \quad & + \quad \cdot educ \quad * \quad \cdot localdev + \\
& \cdot age \quad + \quad \cdot female \quad + \quad \cdot empl \quad + \\
& \cdot urban \quad + \quad \cdot eth \quad + \quad \cdot media \quad + \\
& \cdot \quad + \\
& \cdot service \quad + \quad \cdot infra \quad + \quad \cdot conflict \quad + \\
& \sim \quad (\quad), \text{ where}
\end{aligned}
\tag{2.1}
$$

economic insecurity:

$$= \begin{cases} 0 \text{ (no employment insecurity)} & \text{if} \quad {}^{*} < 0 \\ 1 \text{ (employment insecurity)} & \text{if} \quad {}^{*} \geq 0 \end{cases} \tag{2.2}$$

living conditions:

$$= \begin{cases} 1 \text{ (very bad)} & \text{if} \quad -\infty < {}^{*} < \\ 2 \text{ (fairly bad)} & \text{if} \quad < {}^{*} < \\ 3 \text{ (neither good nor bad)} & \text{if} \quad < {}^{*} < \\ 4 \text{ (fairly good)} & \text{if} \quad < {}^{*} < \\ 5 \text{ (very good)} & \text{if} \quad < {}^{*} < \infty \end{cases} \tag{2.3}$$

All models include the cross-level interaction between education and local development, as well as the above-described individual and context-level explanatory factors. The variable matrix is an array of dummies for each country-year. All models are estimated in STAN with the No-U-Turn Sampler (NUTS) (Hoffman and Gelman, 2014) via the brms package for R (Bürkner, 2017).[7] Convergence of the four chains is assessed with $\hat{}$ diagnostics, which should be close to 1 and never exceed 1.03 in all models across all parameters (Gelman and Rubin, 1992). The results presented below are robust to alternative modeling strategies (non-hierarchical, linear specifications with country-year fixed effects and spatial fixed effects for raster cells, see *Table 2.D.15* in the Appendix).

2.4 Results

My argument suggests that subjective well-being is dependent on the (mis)match of local labor market demands that are dependent on the specific development level and individual education levels. In line with this conditional argument, I expect the highly educated to be most satisfied with their material welfare when living in well-developed areas. On the other hand, individuals with low education are likely to feel more insecure and be less satisfied

[7] I run four chains with 1,000 warm-up and 1,000 sampling iterations. By default, brms uses improper flat priors over the reals for all population (individual) level parameters.

the higher the development level of their local environment. To show the diverse effects of local development, I first present how employment insecurity is affected by the conjunction of individual education and local development levels. In a second step, I present the analysis for reported living conditions. Overall, the results confirm that the effect of local development on employment security and living conditions is, in fact, conditional on individual education levels. They highlight that when living in less developed areas, highly educated people are more economically insecure and dissatisfied than in more developed areas. For the less educated, the relationship is inverse, they experience more economic insecurity and are less satisfied the higher the development level of their surroundings.

2.4.1 Employment Insecurity

Table 2.1 shows the results for perceived employment insecurity and how they depend on education and local development, proxied with night lights. I report the point estimates as well as the lower and upper bound of the 95% credible interval. In addition, I include the number of effective sample size (NEFF) that indicates how the chains mixed. To support readability of the results I report which credible intervals exclude zero.[8]

TABLE 2.1: Estimation results for employment insecurity.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.12,0.15]	✓	4 000
Local Development	0.33	[0.28,0.38]	✓	3 558
Education ∗Local Development	-0.07	[-0.08,-0.06]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	-0.07	[-0.10,-0.03]	✓	4 000
Urban	-0.13	[-0.18,-0.07]	✓	4 000
Unemployment	0.01	[-0.03,0.05]		4 000
Ethnic Grievances	0.03	[-0.01,0.08]		4 000
Media Consumption	0.03	[0.02,0.04]	✓	4 000
Services (EA)	0.02	[0.01,0.04]	✓	4 000
Infrastructure (EA)	0.09	[0.06,0.11]	✓	4 000
Conflict (EA)	-0.15	[-0.26,-0.03]	✓	4 000
Observations	94,888			
Max. $\hat{}$	< 1.01			

As pointed out, my argument suggests a negative interaction effect of local development and education. This would support the hypothesis that education is a necessary condition

[8] This can be interpreted as an indication of statistical significance in the traditional, frequentist sense.

for respondents to be unconcerned about job security in a well-developed environment. The coefficient for local development in this model is positive (0.33) and the 95% credibility interval ranges from 0.28 to 0.38.[9] This means that higher local development levels coincide with more concerns about unemployment and wages for the least educated respondents. The coefficient estimate for the education variable is positive (0.16, 95% : [0.14,0.17]), suggesting that insecurity increases in the least developed areas the higher the educational attainment. The estimate for the interaction of individual education and local development is negative and its density interval clearly excludes 0. $\hat{}$ values for economic insecurity models are all below 1.01, indicating convergence of the four chains. The effective number of samples (NEFF) is never far below the number of iteration (4 chains with 1,000 iterations) indicating that the chains are efficient and show convergence.

In order to understand the impact of the interaction of education and night lights, the predicted probabilities are visualized for three different education levels in *Figure 2.3*. Individual controls (male, urban, employed, no ethnic grievances, average media consumption), enumeration area controls (average services and infrastructure and no conflict in the local environment) and country-year (country-year = South Africa 2008) are held constant. The first panel shows the effect of differently developed areas on employment insecurity for respondents who have no formal schooling, the second relates to those who completed secondary school, and the third panel for respondents who were awarded a university degree.

The predicted probabilities clearly show diverging concerns about employment and wages for these three education groups. In more developed areas, respondents without any formal education are far more concerned about employment insecurity than their well educated counterparts. While the probability of reporting concerns about employment of wages is below 25% in the least developed areas, it is twice as high when living in the most thriving areas, which corresponds to my theoretical expectations. Employment insecurities of people with secondary degrees are not affected by the level of economic development. Yet, when having received a university degree the trajectory is inversed: the probability of being concerned about employment is highest in the least developed areas and constantly decreases with higher economic development. University graduates living in the most illuminated,

[9] In comparison, estimates for education and local development in a model without an interaction are also positive and their 95% credibility intervals exclude 0 (see *Table 2.A.1* in the Appendix).

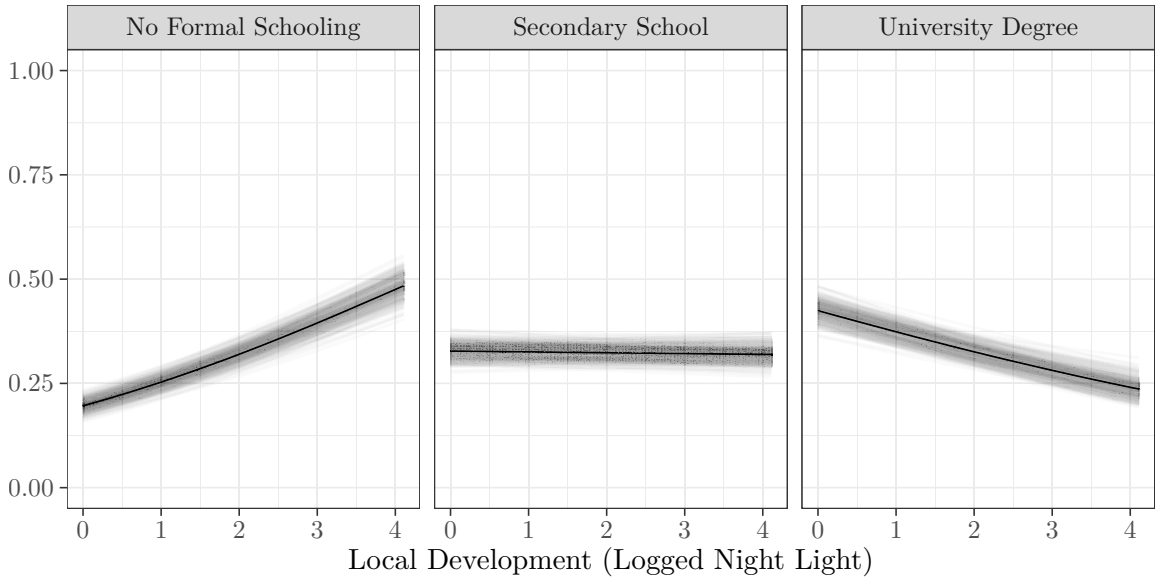


FIGURE 2.3: Predicted probabilities for employment insecurity.

respectively developed areas are least concerned about wages and unemployment compared to others in their education group.

These results show the complex relationship between economic development levels and subjective economic welfare. Not all respondents perceive that their circumstances have improved when the economic conditions are better. At least concerns about employment security are not fewer but more pronounced for large parts of the population when living in thriving areas. Importantly, employment insecurity for the least educated is more severe the higher the development level of their local environment. University educated individuals in comparison, are most concerned in the least illuminated areas, where they cannot find suitable employment and income does not reflect investment in education. Their worry decreases when living in more developed environments.

This trajectory is in line with the argument about the importance of diverging demand for skilled labor for economic well-being: while demand for skilled labor is relatively low in less developed areas, it is substantially more requested by employers in prosperous environments. Therefore, the highly-skilled are more economically secure in well-developed environments, while those with fewer skills feel left behind. For them, it remains difficult to benefit from a thriving economy and their concerns about employment insecurity do not vanish in more developed areas.

2.4.2 Perceived Living Conditions

In the next step, I show posteriors for the perceived living conditions variable (*Table 2.2*). I expect a positive interaction of local development and education, indicating that perceived living conditions improve above all for well-educated people in thriving economic environments. The results show that respondents with higher education are generally more satisfied with their living conditions (0.06, 95% : [0.05,0.07]). However, the estimate for local development is negative, indicating that living in economic environments with higher development levels negatively affects the least educated (-0.17, 95% : [-0.18,-0.10]). This supports the hypothesis that low-skilled people in thriving environments feel worse off than when living in less developed areas. The positive interaction estimate (0.3, 95% : [0.02,0.03]) suggests that the negative effect of higher development levels is moderated by education: Only the highly educated feel that their living conditions are better in prosperous areas.[10]

TABLE 2.2: Estimation results for living conditions.

	Posterior Mean	95% CI	CI exludes 0	NEFF
Education	0.06	[0.05,0.07]	✓	4 000
Local Development	-0.17	[-0.21,-0.13]	✓	2 164
Education ∗Local Development	0.03	[0.02,0.04]	✓	3 336
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	0.08	[0.05,0.11]	✓	4 000
Urban	0.05	[0.00,0.10]		2 974
Unemployment	-0.09	[-0.12,-0.06]	✓	4 000
Media Consumption	0.07	[0.07,0.08]	✓	4 000
Ethnic Grievances	-0.28	[-0.31,-0.25]	✓	4 000
Service (EA)	-0.01	[-0.03,0.00]		4 000
Infrastructure (EA)	0.04	[0.02,0.06]	✓	3 204
Conflict (EA)	-0.06	[-0.15,0.03]		3 304
	-0.38	[-0.54,-0.21]		135
	1.23	[1.08,1.40]		134
	2.22	[2.06,2.39]		134
	4.66	[4.50,4.83]		139
Observations	94,475			
Max. $\hat{}$	< 1.02			

The results show that with age, respondents are less concerned about their living conditions, with women tending to view them more favorably than men. People living in urban

[10]The results of the non-interacted model (see *Table 2.A.2* in the Appendix) show a positive effect of education (0.08) and a negative effect for local development (-0.06) on perceived living conditions.

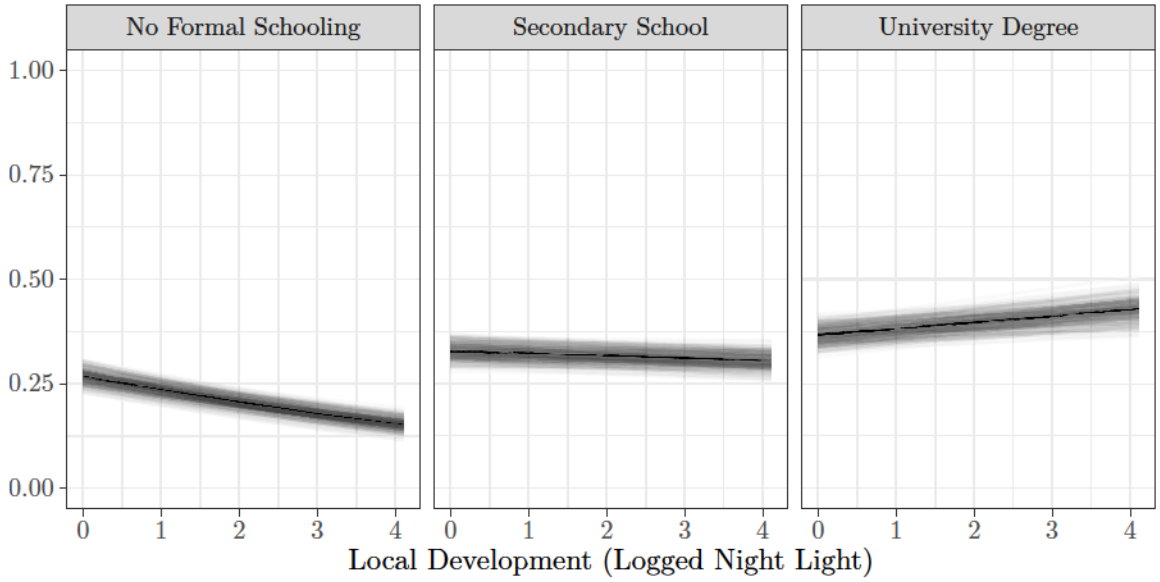


FIGURE 2.4: Predicted probabilities for living conditions.

areas report substantially lower levels of contentment with their living conditions than those residing in rural areas. As can be expected, those who are unemployed and perceive that they are treated unfairly due to their ethnicity report lower satisfaction with their living conditions. Convergence is assessed via $\hat{}$ which does not exceed 1.04 in all models and while the number of effective samples drawn varies, it is sufficiently high for all individual variables to ensure convergence.

Figure 2.4 visualizes predicted probabilities for reported living conditions.[11] The trajectories clearly diverge dependent on the level of education. No formal schooling leads to generally worse perceptions of living conditions compared to all other education groups. These perceptions are even more negative the more illuminated the area and thus the more developed the local environment. Having completed secondary education improves perceptions of living conditions compared to those with lower levels of schooling. Also, the negative effect of higher economic development levels vanishes. However, a positive impact of thriving environments is only visible at very high education levels. For people with a university degree, the probability of reporting good living conditions is substantially higher when residing in prosperous local environments.

While the results show how concerns about employment security are inverse, with the highly educated most concerned in the least developed areas and the less educated more

[11] Individual controls: male, urban, employed, no ethnic grievances, average media consumption; enumeration area controls: average service and infrastructure, no conflict in the previous year; country-year: South Africa, 2008.

prone to reporting employment insecurity in the most developed areas, perceived living conditions of differently educated groups are mainly diverging. This resonates with the importance of comparison and expectations for subjective well-being. In the least developed areas employment opportunities are limited regardless of the individual's education level. People living in these least illuminated areas do not expect to attain a high level of economic welfare given their lagging environment. In these areas, the reported living conditions of differently educated respondents are most alike. In line with the theoretical argument, they start diverging with higher local development levels. Living in these more prosperous areas can give rise to higher expectations regarding economic well-being. If these expectations are not met, subjective well-being stagnates while living in thriving economic areas. For those who cannot live up to their expectations perceived well-being is even worse in these environments, as discrepancies between aspiration and actual living conditions widen. The less educated are also worse off in comparison to others around them when living in thriving environments, which is reflected by their reported low living conditions. In contrast, highly-skilled people do not seem to lag behind their expectations in surroundings with higher economic development. Their perceived living conditions clearly show that they are the beneficiaries of higher economic development.

Overall, concerns about employment and patterns of reported living conditions are dependent on the combination of local development levels and individual productivity. Reported living conditions in the least developed areas are lower and economic insecurity is higher across the education groups. Yet, trajectories diverge the more prosperous the local environment. The more developed the local environment and the higher the individual productivity, the lower the probability of being concerned about employment security and the more positive the perceived living conditions. In contrast, individuals with lower productivity levels are far more likely to report that wages and unemployment are major problems and their perception of living conditions is substantially worse when living in economically thriving environments. Economic development levels clearly exert heterogeneous effects on individuals and higher economic development even impacts some people negatively.

2.4.3 Comparison to National Development and Changes in Local Development

The argument of this paper suggests that the immediate economic environment of people, local labor markets, and the relative demand for skilled labor in these locations affects subjective economic well-being. This bears the question if and to what extent the national development level might still impact people's welfare perceptions. To account for any shifts at country level, the main analysis includes country-year fixed effects. To assess the importance of national economic development further I use the difference between local and national development levels as explanatory variable for both employment insecurity and perceived living conditions. The difference in mean night light emissions between the local and national level captures the importance of relative development levels of local communities within a country.

The results for employment insecurity using the difference between the national level of light emission rather than the local level do not change compared to the main results (presented in *Table 2.B.6* in the Appendix). However, the magnitude in the impact of the difference between local and national development levels on employment insecurity is far less pronounced. For perceived living conditions (*Table 2.C.12* in the Appendix) the disparity between local and national development is also negative and well-educated people perceive their living conditions more favorably. However, the interaction estimate is not significant anymore. These findings underline the importance of the absolute level of development for people's perceived welfare and emphasize the need to focus on the local economic conditions that directly affect them. The welfare perceptions of differently educated people are only marginally affected by the development level of their communities compared to national development levels.

While these results confirm the importance of local development levels in absolute, another question asks whether people's perceptions are influenced by the level or change in local economic development. The main models presented in the analysis use the economic development level in the year before the respondent was interviewed. However, the argument made about the link between local development levels, respective labor market demand and subjective well-being could also be applied to local changes in economic development. In areas that have grown more rapidly, we would expect a similarly swift upward trend in demand for skilled labor. Therefore, higher economic growth (measured as the change in night

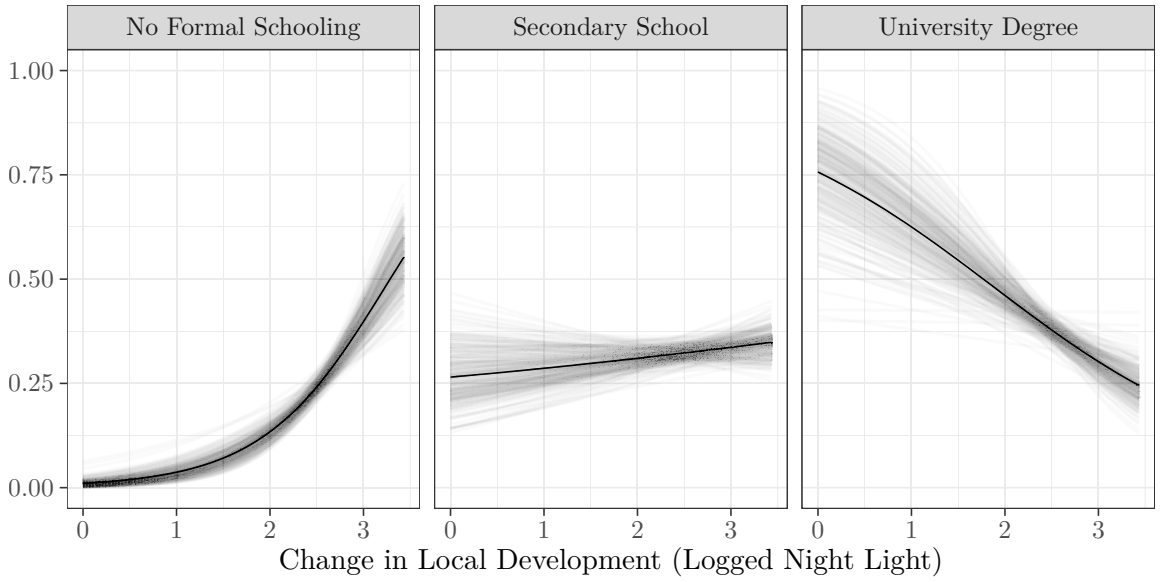


FIGURE 2.5: Predicted probabilities for economic growth and employment insecurity.

lights) should negatively affect the perceived employment security of the low skilled and alleviate concerns about wages and unemployment for those who are well educated. Similarly, perceived living conditions should be lower for less educated individuals living in areas where the economic performance has improved substantially, whereas the highly educated should feel the benefits of that change and rate their living conditions more positively.

The results for the change in local economic development in the three year period before the respondent was interviewed are shown in *Tables 2.B.7* and *2.C.13* in the Appendix. To illustrate the effect on employment insecurity, the predicted probabilities are shown analogously to the main results. Overall, they confirm the results of the main analysis, showing that insecurities of people without formal education surge the higher the economic growth in the three years before the interview. We see the inverse relationship between economic growth and concerns about employment for the most educated respondents, with these concerns mentioned less often the higher the growth rate in their local environment.

For perceived living conditions the pattern also corresponds to the analysis, using development levels instead of change in development. The higher the local economic growth the more dissatisfied are those with no educational attainments (-1.0, 95% : [-1.44,-0.57]), and more highly educated respondents have a worse perception of their living conditions when their local economies are stagnating (-.42, 95% : [-0.62,-0.27]). The interaction estimate is positive, showing that the negative effect of economic growth is reversed for well educated people. These results confirm the findings about the importance of local development levels,

showing that where the economy is growing swiftly the well-educated labor force, increasingly in demand, has a better perception of its economic welfare; conversely, the less educated are less satisfied with their economic situation.

2.4.4 Varying Sizes of Local Economic Environments

The results presented above show that local development has diverse effects on concerns about job security and perceived well-being. Importantly, the effect of different development levels on both employment insecurity and living conditions is clearly contingent on individual education. Economic welfare is only higher for the most educated people in thriving environments. Those with no or low schooling miss out on this positive effect of higher development. In contrast, they feel more insecure and have a worse perception of their living conditions the higher their local development level. To underpin these heterogeneous effects of local economic conditions, I perform a series of robustness tests. Therefore, I re-estimate the models for employment insecurity and perceived living conditions with differently sized local environments.

First, I measure local development with average night light emissions in zones within 10 and 50 km radii around respondents' locations. Second, I use a dynamic buffer which ranges between 10 and 100 km depending on the accessibility of the location. The results for concerns about employment security are shown in *Tables 2.B.3, 2.B.4*, and *2.B.5* in the Appendix. The main findings of the analysis based on the 30 km buffer zones are robust to all three different specifications. In areas with higher economic development concerns about employment (dynamic estimate: 0.35; 10 km estimate: 0.24, 50 km estimate: 0.42) for the least educated are always more pronounced. The interaction estimates show that this trajectory is inverted for all three sizes of local environments for people with high educational attainments (dynamic estimate: -0.07; 10 km estimate: -0.05, 50 km estimate: -0.09). Similarly, the results for reported living conditions do not change substantially with different specifications of local economic environments. For 10 km, 50 km and dynamic local environments, higher economic development levels coincide with the least educated reporting negative perceptions about their living conditions. This negative impact is always reversed for more skilled, educated people. The estimates for the interaction for the different buffer

sizes, shown in *Tables 2.C.9, 2.C.10*, and *2.C.11* in the Appendix, range from 0.02 to 0.04 and all 95% posterior density intervals exclude 0.

Different sizes for local economic environments only slightly change the estimates of the main model, based on 30 km buffer zones. The effects are a bit weaker for the 10 km zones and somewhat stronger for the environments with a 50 km radius. Relying on dynamic buffers, which take into account how easy it is to reach the location of the respondent, produces almost identical estimates. This corroborates the main findings and the theoretical argument that *local* economic conditions in conjunction with educational attainments impact how people perceive their welfare.

2.4.5 Light Emissions from Natural Resource Extraction

An important caveat of my findings is related to the use of night lights as a proxy for economic development and the question as to what type of economic activity actually causes nighttime illumination. The argument made here is that night lights are well suited to capture different economic development levels and the accompanying structural transformation state of the economy. However, the danger is that night lights might over or underestimate economic activity in certain areas. The proxy could overestimate economic development levels where disproportionate amounts of light are emitted. This should apply particularly to light intensive extraction of natural resources. The problematic feature of natural resource extraction, especially oil and gas extraction, is that these economic activities generally provide few and mostly low-skilled employment opportunities (McMillan, Rodrik and Verduzco-Gallo, 2014). In contrast, the production processes of these industries constantly produce substantial illumination, which I use as an indicator for thriving environments in my analysis.

To account for this problem, I exclude all respondents living in environments with active onshore oil and gas deposits.[12] The results based on this restricted sample corroborate the findings from the full sample (see *Tables 2.B.8* and *2.C.14* in the Appendix). Again, higher local development levels lead to more economic insecurities and exert a negative effect on perceived living conditions for people with low education. Both effects turn for highly educated individuals who feel less insecure and are more satisfied with their living conditions when living in thriving environments.

[12]Data on the location of onshore oil and gas deposits is taken from the Petroleum Dataset provided by PRIO (Lujala, Rod and Thieme, 2007).

The robustness checks performed here in terms of model specification, differently sized local economic environments and the exclusion of respondents living in proximity to light intensive but low-employment economic activities, all confirm the main findings: the effect of higher economic development is conditional on people's educational achievements. There is no parallel trend in perceived economic well-being and local development for everyone. The winners in economic development are the highly educated who can profit in terms of less insecurity concerning their employment situation and more favorable perceptions of their living conditions. The least and less educated are decoupled from high economic development levels in their immediate surroundings. To the contrary, they feel more insecure and report lower satisfaction with their living conditions the more developed their local environment.

2.5 Conclusion

Countries worldwide pursue economic growth as a means to improve the lives of citizens. And yet, our understanding of the effects of economic development on people's welfare perceptions - fundamental for both their subjective well-being, but especially for their political attitudes and behavior - is still limited. Testing whether, and in particular for whom economic development improves perceived welfare thus helps us to gain a more comprehensive understanding of the effects of development. This is not only an important question for supplementing the evaluation of economic development; answering it might help us to better understand patterns of perceived inequality in living standards and economic concerns, but also resulting political attitudes and behavior in the face of disparate economic development across and within countries. Assessing the effect of vastly different local economic conditions on people's attitudes is not only important and feasible for research focusing on developed democracies (Larsen et al., 2019; Healy and Lenz, 2017), but also for analyses focusing on developing and emerging countries.

The evidence from a large number of African countries over more than a decade presented here clearly shows the diverse effects of local economic development on perceived economic welfare. While the well-educated feel more secure and have a more positive perception of their welfare the higher the development level of their local community, the opposite is true for those with no or low educational achievements. For the low-skilled, higher economic development gives rise to employment insecurities and their perceived welfare is generally

lower in thriving economic environments. These results are in line with the argument that a mismatch in local demand for skilled labor and and the individual's own educational attainment results in an adverse welfare perception, which applies to the highly-educated in less developed environments and the low-skilled in booming areas. In essence, higher economic development drives a wedge between high- and low-skilled people in terms of their perceived welfare and leaves behind the less-educated.

The results presented here underline the importance of *local* economic conditions for people's welfare perceptions. Local development levels are vital as they determine the economic conditions to which people are directly exposed. With prevailing spatial variation in economic development, people in the same country live in vastly differently developed local communities. To gain a nuanced understanding of the effects of economic development we therefore need to zoom into these local areas that center around people's site of residence and are confined by the extent of individual mobility. To measure these local economic conditions we cannot rely on often inexistent and unreliable regional data accounts. However, disaggregated geographically referenced proxies for economic activity, i.e. nighttime illumination as used here, are available and can help us to more accurately approximate the economic conditions encountered by people.

In this paper I have combined disaggregated raster data on night lights with precise information on respondents' location. Thereby, it has been possible to measure the economic development level of people's local communities. This approach makes use of detailed geographic information recently made available by some large cross-country household surveys and attempts to substantially refine our understanding of the economic conditions to which people are exposed. In addition, it showcases the potential for further political economy research interested in concisely combining individual and contextual data, as well as the potential of high-resolution proxies such as night lights in individual level analyses. The results are in line with recent findings on the importance of local economies from developed countries and show that these confined local areas have a strong impact on the perceived welfare and economic security of people.

However, the results also emphasize the importance of scrutinizing how individual characteristics, such as education, interact with economic conditions when analyzing their individual-level effects. They show that higher economic development profits some people but seems

to hurt others, depending on individual characteristics that determine the individual's fit to local labor market demands. Heterogeneous individual-level effects may also be able to reconcile mixed findings in the literature, connecting economic conditions with political outcomes. When some people win and others lose out from the same situation, it might help to make sense of findings that connect the economy and political behavior and find differing effects, e.g. a protest-deterring or -enhancing effect of economic openness (Dodson, 2015; Robertson and Teitelbaum, 2011). And they might also help to explain the null findings in the literature, as these positive and negative effects can cancel each other out (Bussmann, Scheuthle and Schneider, 2006; Karakaya, 2016).

The paper also reveals a potentially problematic trajectory when rising economic development does not improve the economic welfare perception for everyone. This is especially the case in terms of the negative trajectory of employment security and perceived living conditions on the part of poorly educated people who reside in areas that are more highly developed, which runs counter to the aim of developing countries to improve the livelihood or citizens, the poor in particular. At minimum, the less educated, who are often also the poorest citizens, do not feel the benefits of higher economic development. While we might value economic growth and higher development levels, these positive trajectories do not automatically trickle down to everyone's subjective welfare. In contrast, some people feel worse off when living in thriving environments than in less developed areas. Clearly, higher economic development levels increase the gaps in perceived well-being with potential repercussions for people's political attitudes and behavior.

Supplementary Materials

2.A Non-Interacted Models

TABLE 2.A.1: Estimation results for employment insecurity.
Non-Interacted Model with local development based on night lights in 30km buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.07	[0.06,0.09]	✓	4 000
Local Development	0.06	[0.03,0.09]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	-0.06	[-0.10,-0.03]	✓	4 000
Urban	-0.13	[-0.19,-0.07]	✓	4 000
Unemployment	0.00	[-0.04,0.04]		4 000
Ethnic Grievances	0.03	[-0.01,0.08]		4 000
Media Consumption	0.03	[0.02,0.04]	✓	4 000
Services (EA)	0.02	[0.01,0.04]	✓	4 000
Infrastructure (EA)	0.09	[0.07,0.11]	✓	4 000
Conflict (EA)	-0.14	[-0.25,-0.03]	✓	4 000
Observations	94,053			
Max. $\hat{}$	1.02			

TABLE 2.A.2: Estimation results for living conditions.
Non-Interacted Model with local development based on night lights in 30km buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.08	[0.07,0.09]	✓	4 000
Local Development	-0.06	[-0.09,-0.03]	✓	2 374
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	0.08	[0.05,0.11]	✓	4 000
Urban	0.05	[0.00,0.10]		3 053
Unemployment	-0.09	[-0.12,-0.05]	✓	4 000
Ethnic Grievances	-0.28	[-0.31,-0.25]	✓	4 000
Media Consumption	0.07	[0.07,0.08]	✓	4 000
Services (EA)	-0.01	[-0.03,0.00]		4 000
Infrastructure (EA)	0.04	[0.02,0.05]	✓	3 269
Conflict (EA)	-0.06	[-0.15,0.03]		2 961
	-0.32	[-0.49,-0.17]		137
	1.29	[1.13,1.45]		136
	2.28	[2.12,2.44]		137
	4.72	[4.55,4.88]		143
Observations	94,475			
Max. $\hat{}$	1.01			

2.B Robustness Tests for Employment Insecurity

TABLE 2.B.3: Estimation results for employment insecurity.
Local development based on night lights in dynamic buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.12,0.15]	✓	4 000
Local Development	0.35	[0.30,0.41]	✓	4 000
Education ∗Local Development	-0.07	[-0.08,-0.06]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	-0.07	[-0.10,-0.03]	✓	4 000
Urban	-0.13	[-0.19,-0.07]	✓	4 000
Unemployment	0.01	[-0.03,0.05]		4 000
Ethnic Grievances	0.03	[-0.01,0.08]		4 000
Media Consumption	0.03	[0.02,0.04]	✓	4 000
Services (EA)	0.02	[0.01,0.04]	✓	4 000
Infrastructure (EA)	0.09	[0.06,0.11]	✓	4 000
Conflict (EA)	-0.14	[-0.26,-0.04]	✓	4 000
Observations	94,053			
Max. $\hat{}$	1.03			

TABLE 2.B.4: Estimation results for employment insecurity.
Local development based on night lights in 10km buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.12,0.15]	✓	4 000
Local Development	0.24	[0.20,0.28]	✓	3 323
Education ∗Local Development	-0.05	[-0.06,-0.04]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	-0.07	[-0.10,-0.03]	✓	4 000
Urban	-0.10	[-0.17,-0.04]	✓	3 612
Unemployment	0.01	[-0.03,0.05]		4 000
Ethnic Grievances	0.03	[-0.01,0.08]		4 000
Media Consumption	0.03	[0.02,0.04]	✓	4 000
Services (EA)	0.02	[0.01,0.04]	✓	4 000
Infrastructure (EA)	0.09	[0.06,0.11]	✓	4 000
Conflict (EA)	-0.15	[-0.26,-0.04]	✓	4 000
Observations	94,053			
Max. $\hat{}$	1.0			

TABLE 2.B.5: Estimation results for employment insecurity.
Local development based on night lights in 50km buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.13,0.16]	✓	4 000
Local Development	0.42	[0.36,0.49]	✓	4 000
Education ∗Local Development	-0.09	[-0.10,-0.07]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	-0.07	[-0.10,-0.03]	✓	4 000
Urban	-0.13	[-0.19,-0.07]	✓	4 000
Unemployment	0.01	[-0.03,0.05]		4 000
Ethnic Grievances	0.04	[-0.01,0.08]		4 000
Media Consumption	0.03	[0.02,0.04]	✓	4 000
Services (EA)	0.02	[0.01,0.04]	✓	4 000
Infrastructure (EA)	0.09	[0.06,0.11]	✓	4 000
Conflict (EA)	-0.14	[-0.25,-0.03]	✓	4 000
Observations	94,053			
Max. $\hat{}$	1.02			

TABLE 2.B.6: Estimation results for employment insecurity.
Difference between mean night light in 30km buffer zones and country mean.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.10	[0.09,0.11]	✓	4 000
Diff. to Nat. Development	0.03	[0.02,0.03]	✓	4 000
Education ∗Diff. to Nat. Development	-0.01	[-0.01,-0.01]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	-0.06	[-0.10,-0.03]	✓	4 000
Urban	-0.17	[-0.23,-0.12]	✓	4 000
Unemployment	0.00	[-0.04,0.05]		4 000
Ethnic Grievances	0.03	[-0.01,0.08]		4 000
Media Consumption	0.03	[0.02,0.04]	✓	4 000
Services (EA)	0.02	[0.00,0.04]		4 000
Infrastructure (EA)	0.10	[0.07,0.12]	✓	4 000
Conflict (EA)	-0.15	[-0.26,-0.04]	✓	4 000
Observations	94,053			
Max. $\hat{}$	1.02			

TABLE 2.B.7: Estimation results for employment insecurity.
Local growth based on 3 year change of night lights in 30km buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.75	[0.49,0.99]	✓	1 451
Local Economic Growth	1.46	[0.94,1.95]	✓	1 420
Education ∗Local Economic Growth	-0.27	[-0.36,-0.17]	✓	1 448
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	-0.06	[-0.10,-0.02]	✓	4 000
Urban	-0.16	[-0.22,-0.09]	✓	2 635
Unemployment	0.00	[-0.05,0.04]		4 000
Ethnic Grievances	0.03	[-0.01,0.08]		4 000
Media Consumption	0.03	[0.02,0.04]	✓	4 000
Services (EA)	0.02	[0.00,0.04]		4 000
Infrastructure (EA)	0.10	[0.08,0.12]	✓	2 601
Conflict (EA)	-0.15	[-0.27,-0.03]	✓	4 000
Observations	87,710			
Max. $\hat{}$	1.03			

TABLE 2.B.8: Estimation results for employment insecurity.
Excluding respondents from enumeration areas intersecting with onshore petroleum fields.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.12,0.16]	✓	4 000
Local Development	0.35	[0.30,0.40]	✓	3 398
Education ∗Local Development	-0.08	[-0.09,-0.07]	v	3 514
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	-0.06	[-0.10,-0.02]	✓	4 000
Urban	-0.14	[-0.20,-0.08]	✓	4 000
Unemployment	0.02	[-0.03,0.06]		4 000
Ethnic Grievances	0.04	[-0.01,0.08]		4 000
Media Consumption	0.03	[0.02,0.04]	✓	4 000
Services (EA)	0.02	[0.00,0.03]		4 000
Infrastructure (EA)	0.09	[0.07,0.11]	✓	4 000
Conflict (EA)	-0.16	[-0.28,-0.05]	✓	4 000
Observations	89,912			
Max. $\hat{}$	1.01			

2.C Robustness Tests for Living Conditions

TABLE 2.C.9: Estimation restults for living conditions.
Local Development based on night lights in dynamic buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.06	[0.05,0.07]	✓	4 000
Local Development	-0.20	[-0.24,-0.16]	✓	2 173
Education ∗Local Development	0.03	[0.03,0.04]	✓	2 910
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	0.08	[0.05,0.11]	✓	4 000
Urban	0.05	[0.00,0.10]		2 798
Unemployment	-0.09	[-0.12,-0.06]	✓	4 000
Ethnic Grievances	-0.28	[-0.31,-0.25]	✓	4 000
Media Consumption	0.07	[0.07,0.08]	✓	4 000
Services (EA)	-0.01	[-0.02,0.00]		3 474
Infrastructure (EA)	0.04	[0.02,0.05]	✓	3 251
Conflict (EA)	-0.06	[-0.15,0.03]		3 098
	-0.41	[-0.57,-0.25]		195
	1.21	[1.05,1.37]		194
	2.20	[2.04,2.35]		195
	4.64	[4.47,4.80]		204
Observations	94,475			
Max. $\hat{}$	1.03			

TABLE 2.C.10: Estimation results for living conditions.
Local development based on night lights in 10km buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.06	[0.05,0.07]	✓	4 000
Local Development	-0.11	[-0.14,-0.08]	✓	2 205
Education ∗Local Development	0.02	[0.01,0.03]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	3 627
Female	0.08	[0.05,0.10]	✓	4 000
Urban	0.04	[-0.01,0.09]		2 944
Unemployment	-0.09	[-0.12,-0.06]	✓	4 000
Ethnic Grievances	-0.28	[-0.31,-0.25]	✓	4 000
Media Consumption	0.07	[0.07,0.08]	✓	4 000
Services (EA)	-0.01	[-0.02,0.00]		3 167
Infrastructure (EA)	0.04	[0.02,0.06]	✓	3 034
Conflict (EA)	-0.06	[-0.14,0.03]		2 916
	-0.39	[-0.56,-0.23]		111
	1.23	[1.06,1.39]		112
	2.21	[2.04,2.38]		112
	4.65	[4.48,4.82]		117
Observations	94,475			
Max. $\hat{}$	1.04			

TABLE 2.C.11: Estimation results for living conditions.
Local development based on night lights in 50km buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.06	[0.05,0.07]	✓	4 000
Local Development	-0.23	[-0.29,-0.18]	✓	2 312
Education ∗Local Development	0.04	[0.03,0.05]	✓	3 158
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	0.08	[0.05,0.11]	✓	4 000
Urban	0.05	[0.00,0.10]		2 615
Unemployment	-0.09	[-0.12,-0.06]	✓	4 000
Ethnic Grievances	-0.28	[-0.31,-0.25]	✓	4 000
Media Consumption	0.07	[0.07,0.08]	✓	4 000
Services (EA)	-0.01	[-0.03,0.00]		4 000
Infrastructure (EA)	0.04	[0.02,0.06]	✓	3 149
Conflict (EA)	-0.06	[-0.15,0.03]		3 194
	-0.41	[-0.56,-0.24]		209
	1.21	[1.05,1.38]		206
	2.20	[2.04,2.37]		183
	4.64	[4.47,4.81]		153
Observations	94,475			
Max. $\hat{}$	1.03			

TABLE 2.C.12: Estimation results for living conditions.
Difference between mean night light in 30km buffer zones and country mean.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.07	[0.06,0.08]	✓	4 000
Diff. to Nat. Development	-0.02	[-0.03,-0.01]	✓	4 000
Education ∗Diff. to Nat. Development	0.00	[0.00,0.01]		4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	0.08	[0.05,0.11]	✓	4 000
Urban	0.07	[0.02,0.12]	✓	4 000
Unemployment	-0.09	[-0.12,-0.06]	✓	4 000
Ethnic Grievances	-0.28	[-0.31,-0.25]	✓	4 000
Media Consumption	0.07	[0.07,0.08]	✓	4 000
Services (EA)	-0.01	[-0.02,0.00]		4 000
Infrastructure (EA)	0.03	[0.02,0.05]	✓	4 000
Conflict (EA)	-0.06	[-0.15,0.03]		4 000
	-0.32	[-0.48,-0.15]		217
	1.30	[1.14,1.47]		216
	2.29	[2.12,2.45]		216
	4.73	[4.56,4.90]		225
Observations	94,475			
Max. $\hat{}$	1.01			

TABLE 2.C.13: Estimation results for living conditions.
Local growth based on 3 year change of night lights in 30km buffer zones.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	-0.42	[-0.62,-0.20]	✓	4 000
Local Economic Growth	-1.00	[-1.44,-0.57]	✓	4 000
Education ∗Local Economic Growth	0.20	[0.11,0.28]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	0.07	[0.05,0.10]	✓	4 000
Urban	0.08	[0.03,0.13]	✓	4 000
Unemployment	-0.09	[-0.12,-0.06]	✓	4 000
Ethnic Grievances	-0.29	[-0.32,-0.26]	✓	4 000
Media Consumption	0.07	[0.07,0.08]	✓	4 000
Services (EA)	-0.01	[-0.02,0.00]		4 000
Infrastructure (EA)	0.03	[0.02,0.05]	✓	4 000
Conflict (EA)	-0.05	[-0.14,0.04]		4 000
	-2.80	[-3.89,-1.72]		4 000
	-1.19	[-2.27,-0.11]		4 000
	-0.19	[-1.28,0.88]		4 000
	2.25	[1.15,3.33]		4 000
Observations	88,122			
Max. $\hat{}$	1.01			

TABLE 2.C.14: Estimation results for living conditions.
Excluding respondents from enumeration areas intersecting with onshore petroleum fields.

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.06	[0.04,0.07]	✓	4 000
Local Development	-0.21	[-0.25,-0.16]	✓	2 580
Education ∗Local Development	0.04	[0.03,0.05]	✓	4 000
Age	-0.01	[-0.01,-0.01]	✓	4 000
Female	0.08	[0.05,0.11]	✓	4 000
Urban	0.06	[0.01,0.10]	✓	2 323
Unemployment	-0.09	[-0.13,-0.06]	✓	4 000
Ethnic Grievances	-0.29	[-0.32,-0.26]	✓	4 000
Media Consumption	0.07	[0.07,0.08]	✓	4 000
Service (EA)	-0.01	[-0.02,0.01]		4 000
Infrastructure (EA)	0.03	[0.01,0.05]	✓	2 282
Conflict (EA)	-0.05	[-0.13,0.04]		3 025
	-0.39	[-0.56,-0.23]		228
	1.23	[1.07,1.39]		227
	2.20	[2.04,2.37]		227
	4.64	[4.48,4.81]		237
Observations	90,321			
Max. $\hat{}$	1.02			

2.D Non-Hierarchical Models

TABLE 2.D.15

	Dependent variable:			
	Economic Insecurity		Living Conditions	
	(1)	(2)	(3)	(4)
Education	0.02*	0.02*	0.03*	0.03*
	(0.001)	(0.001)	(0.01)	(0.003)
Local Development	0.05*	0.04*	−0.13*	−0.09*
	(0.005)	(0.004)	(0.02)	(0.01)
Education * Local Development	−0.01*	−0.01*	0.02*	0.02*
	(0.001)	(0.001)	(0.004)	(0.002)
Age	−0.001*	−0.001*	−0.004*	−0.004*
	(0.0001)	(0.0001)	(0.0004)	(0.0003)
Female	−0.01*	−0.01*	0.05*	0.05*
	(0.003)	(0.002)	(0.01)	(0.01)
Urban	−0.02*	−0.02*	0.04†	0.04*
	(0.01)	(0.004)	(0.02)	(0.01)
Unemployed	0.01†	0.01*	−0.05*	−0.05*
	(0.004)	(0.003)	(0.01)	(0.01)
Ethnic Grievance	0.004	0.002	−0.20*	−0.19*
	(0.004)	(0.003)	(0.02)	(0.01)
Media Consumption	0.005*	0.005*	0.05*	0.05*
	(0.001)	(0.0005)	(0.003)	(0.001)
Service (EA)	0.003*	0.004*	−0.005	−0.003
	(0.001)	(0.001)	(0.01)	(0.003)
Infrastructure (EA)	0.02*	0.01*	0.03*	0.02*
	(0.002)	(0.002)	(0.01)	(0.005)
Conflict (EA)	−0.02*	−0.02*	−0.02	−0.02
	(0.01)	(0.01)	(0.02)	(0.02)
Country-Year FE	Yes	Yes	Yes	Yes
Raster FE		Yes		Yes
Observations	117,941	117,941	118,575	118,575
R	0.13	0.13	0.12	0.14

Note: Standard errors clustered on survey cluster; † < 0.1, * < 0.05.

2.E Posterior Distributions Main Models

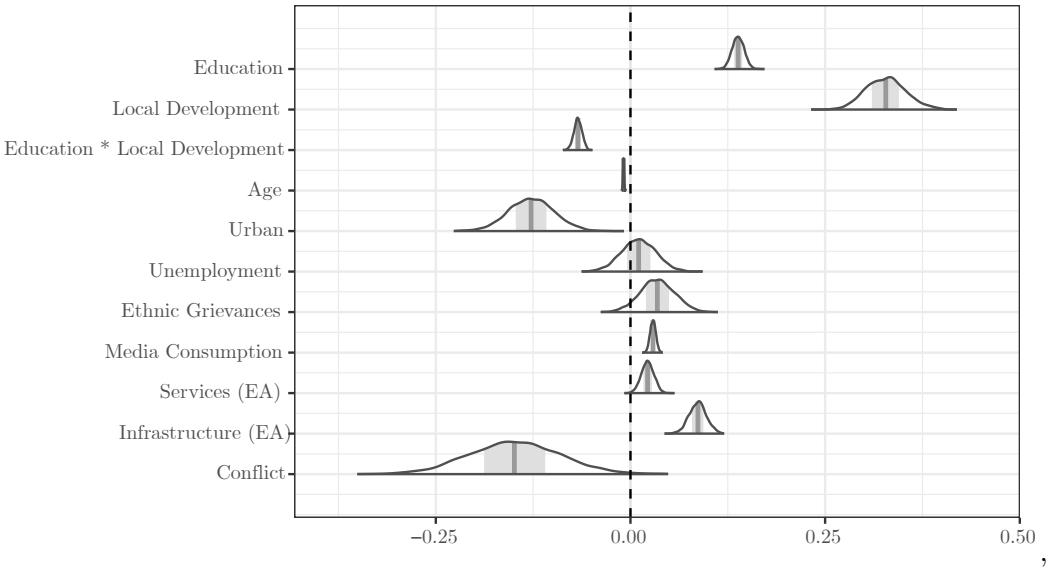


FIGURE 2.E.1: Posterior distributions for employment insecurity in *Table 2.1* (means & 50% probability mass).

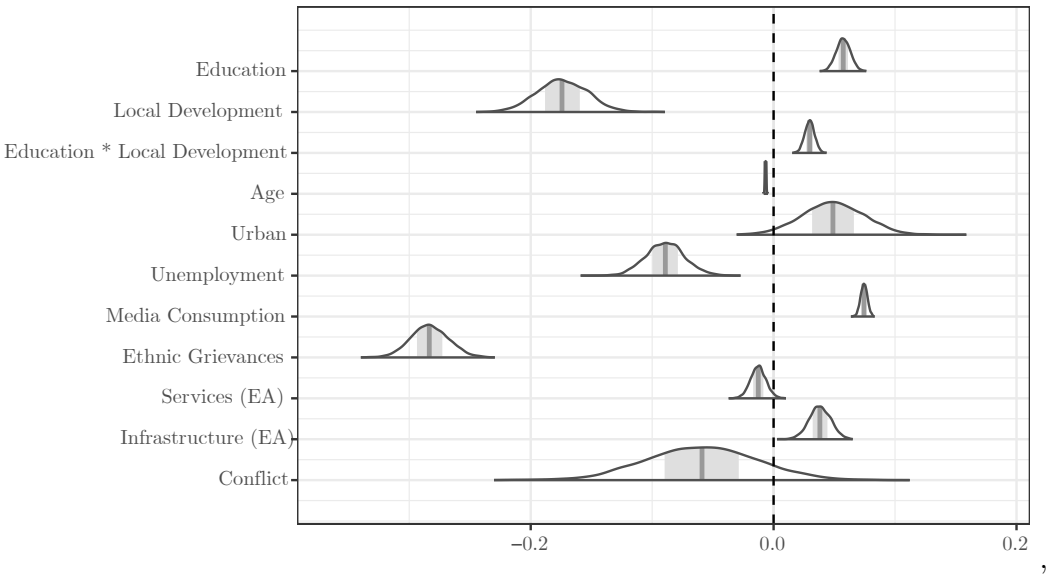


FIGURE 2.E.2: Posterior distributions for living conditions in *Table 2.2* (means & 50% probability mass).

Chapter 3

Buying Social Stability?

The Effects of FDI on Protest Participation

Abstract

Research on the effect of economic globalization on political stability is divided and largely focuses on the link between national FDI inflows and protest. Yet, the distributional effects of FDI - the decisive link to political behavior - mainly affect people who live close to FDI projects. Therefore, I assess the relationship between FDI projects and individual protest participation in local communities. I argue that FDI projects improve the employment situation of well-educated workers in host communities, reducing their economic grievances and the motivation to protest. Less-educated people, on the other hand, cannot profit economically. However, they do not protest more as they lack the opportunities to join protests normally organized by the well-educated. I test my argument by newly matching geolocated FDI project data and individual survey data from African countries. Using a difference-in-difference design, the results confirm that well-educated people in particular are less likely to report protest participation after FDI projects are implemented in their communities. My results suggest that overall FDI improves social stability despite its heterogeneous distributional effects.

Acknowledgments

I am grateful for very helpful comments and input from Stefanie Walter, Lucas Leemann, Tobias Rommel, Nils Redeker, Ari Ray, Valentin Lang and Loriana Crasnic. An early version of this chapter profited from comments by participants of the 'MAD' workshop at the University of North Carolina, Chapel Hill.

3.1 Motivation

Foreign direct investment has become a major component of economic globalization in Africa over the past few decades and FDI inflows are now even exceeding official aid flows (Pandya, 2016; OECD, 2018; UNCTAD, 2017). Host countries are often eager to attract foreign investors in the hope of promoting economic growth and the transfer of technology.[1] However, early on globalization critics pointed out that economic liberalization in developing countries is accompanied by increasing political instability (Bussmann and Schneider, 2007). Similarly, research suggests that FDI might have other negative effects like increasing competition, threatening labor rights and deepening existing inequalities (Mosley, 2007), which ultimately fuels social conflict (Christensen, 2019; Robertson and Teitelbaum, 2011). Indeed, political instability in the form of protest has become more and more prevalent throughout the continent (Branch and Mampilly, 2015; Mueller, 2018). However, evidence as to whether economic globalization and FDI is to blame for this recent trend remains scarce, largely relying on aggregate, national FDI inflows (Robertson and Teitelbaum, 2011; Bussmann, Scheuthle and Schneider, 2006) or specific types of investment (Christensen, 2019). To address the still hotly debated question that asks whether and how economic globalization affects political instability, I turn to the micro-level and assess how exposure to foreign investment projects affect individual protest participation.

Foreign investment exerts significant distributional consequences in host societies (Goldberg and Pavcnik, 2007; Scheve and Slaughter, 2004). Researchers have linked rising income inequality (Li and Reuveny, 2003; Basu and Guariglia, 2007; Choi, 2006; Herzer, Hühne and Nunnenkamp, 2014) and stagnating human development to foreign investments (Kosack and Tobin, 2006). Still, other scholars emphasize that the effects of foreign investment are more complex and heavily depend on the type of investment (Mihalache-O'Keef and Li, 2011; Pandya, 2010). Overall, the majority of studies agree that the distributional consequences of FDI mainly benefit high-skilled workers (Feenstra and Hanson, 1997; Pandya, 2010), which reflects theoretical advances emphasizing that winners and losers of globalization are determined by both exposure to economic openness and skill (Helpman, Itskhoki and Redding, 2010; Akerman et al., 2013).

[1] For an overview of the literature on the determinants of FDI flows, see Pandya (2016).

While the evidence on the heterogeneous distributional effects of FDI dominates, the link to political stability and protest remains far more contested: Linking national FDI inflows and individual protest participation, Dodson (2015) finds that higher FDI inflows result in a lower likelihood of people participating in demonstration. Yet, Robertson and Teitelbaum (2011) provide evidence for a link between national FDI inflows and more labor protest in developing countries. At the local level, Christensen (2019) shows that foreign investment in mining projects increases the likelihood of riots and demonstrations. Still, other studies contest that there is any relationship between economic openness on domestic social unrest (Bussmann and Schneider, 2007; Karakaya, 2016).

Considering the rising economic importance of FDI, its significant and heterogeneous distributional effects and contradicting evidence regarding the link to social unrest, it is important to re-assess the political reactions of people living in the communities directly targeted by foreign investment projects. Drawing on models and research on the distributional consequences of globalization, I argue that FDI affects protest participation differently depending on individual exposure and education levels. In contrast to existing theories I conceptualize exposure geographically - people are exposed to FDI when they live in a community where a foreign firm invests. In these communities, the highly educated profit from FDI in terms of better employment conditions, while the less-educated are left out of this positive development. Fewer economic grievances and generally higher economic security also cushions other reasons for taking to the streets, thus well-educated people become less active. The less-educated, on the other hand, could voice their (still existing) grievances through protest; however, with fewer opportunities to join demonstrations - predominantly organized by the more educated cohort - their participation rate stagnates as well. FDI, economically profiting the group that is generally more active in demonstrations, reduces protest participation both particularly for this group but also in the entire host community.

By combining geolocated FDI project data and individual survey data, I am able to test the impact of FDI on protest participation in the local communities where investment takes place. To identify the effect of FDI projects, I leverage both spatial and temporal variation in my sample consisting of respondents from 36 African countries over six waves of the Afrobarometer survey. My estimation strategy references the impact of FDI on participation

in communities with existing projects to those where FDI projects had not yet started when the survey was fielded.

The results show that FDI is not a threat to social stability, as other scholars have pointed out (Robertson and Teitelbaum, 2011; Christensen, 2019). In contrast, living close to an ongoing FDI project significantly decreases people's likelihood to demonstrate. The well-educated, in particular, are less prone to voice their concerns through protesting when they live in proximity to a foreign investment project. In line with the argument that FDI and protest participation are linked via people's economic grievances, I also show how employment related concerns become less prevalent for the well-educated in communities with FDI projects, while they remain relevant for those with lower educational attainment.

With rising foreign investment flows into African countries all involved actors face certain challenges. Investors have to decide on where to invest and which conditions are conducive to generating profit with their investment. After all, protest and social instability potentially threaten smooth operation and can jeopardize the success of foreign investments. Governments have to weigh the economic and social costs and benefits of creating an investor-friendly environment or restricting economic openness. In order to make informed decisions about how to tailor policies governing economic globalization, we need to understand the extent of potential social costs of these international capital flows, especially in the form of social unrest and demonstrations. Overall, the findings presented here support the theory that FDI furthers social stability in the communities where it is implemented, notwithstanding its heterogeneous distributional effects.

3.2 FDI Projects and Protest

FDI projects affect protest participation through their sizable distributional effects impacting people's employment situation. In essence, the argument proceeds in two steps: First, it builds on empirical evidence and theoretical models showing that foreign investment projects predominantly provide employment opportunities for high-skilled people. Thereby, FDI favors a particular group in society that profits materially when investments flow in. This is especially the case in the immediate surroundings of the investment project, where the people are directly exposed to the distributional effects of the investment. Therefore, I introduce in a second step the concept of 'geographical exposure' to foreign direct investment.

The following section connects these distributive effects with individual protest behavior taking into account both the importance of motivation and opportunity to demonstrate. The argument suggests that improved employment opportunities of the high-skilled result in less grievances and thus motivation to protest. In turn the share of high-skilled people participating in demonstrations declines when an FDI project is implemented in the area. Although the less-educated are not able to share in the positive effects of FDI on their income opportunities they do not become more likely to join protest, as the organizing group, i.e. well-educated people, are appeased (Pearlman, 2018; Mueller, 2018).

3.2.1 The Distributional Effects of FDI Projects

In general, scholars agree that international capital flows in the form of foreign investments can create overall welfare gains (Hansen and Rand, 2006). Notwithstanding the positive aggregate impact, the majority of empirical research on the distributive effects of foreign investment concludes that it affects people differently. The combined evidence of these studies suggests that FDI in emerging and developing countries increases several dimensions of inequality. First, it increases domestic inequality (Choi, 2006), regional inequality (Lessmann, 2013), and most importantly the wage gap between high- and low-skilled workers (Feenstra and Hanson, 1997; te Velde and Morrissey, 2003*a*; Chen, Ge and Lai, 2011; Lipsey and Sjöholm, 2004; Hijzen et al., 2013; Goldberg and Pavcnik, 2007).

Foreign multinational firms are internationally competitive and dominate domestic and international markets (Helpman, Melitz and Yeaple, 2004; Osgood, 2016). They profit from international openness, because they are able to expand their business and lower their costs of production. Research shows that these competitive firms employ on average more productive and skilled workers that ensure the success of their firms (Helpman, Itskhoki and Redding, 2010). Firms that want to thrive depend on a high-skilled workforce and are therefore willing to pay higher wages to keep these highly productive workers. Both foreign multinational firms and domestic firms that become part of the supply-chain of the multinationals pay on average higher wages to highly-skilled, productive workers who ensure the firms are successful and able to compete internationally (Görg and Seric, 2013; te Velde and Morrissey, 2003*a*). High-skilled workers can therefore bargain for higher wages when foreign investors arrive compared to other workers who are not exposed to this type of international competition;

this is also the case for the less skilled but also FDI-exposed workforce (Feenstra and Hanson, 1997). For the latter, FDI even increases the risk of unemployment (Osgood, 2016).

FDI not only establishes new firms and increases supply to local markets, it also creates competition between foreign and domestic firms and between domestic firms that compete to become part of the supply chain of the foreign investor. While FDI increases the number of firms that are able to engage in international trade, it also threatens the survival of unsuccessful competitors (Helpman, 2014). Domestic firms with lower productivity-levels face increasing competition and lose parts of their business. These less productive, struggling firms employ on average less productive, meaning less-skilled workers. These workers face downward pressure on their wages and increasing risk of unemployment due to the difficult situation of their employers (Chen, Ge and Lai, 2011). However, their skill set is too limited to be attractive for foreign multinationals or thriving domestic firms, which additionally lowers their chances to find a suitable replacement in the case that they are laid off. Less-educated workers are the main economic losers of foreign investment when they are exposed to this force of globalization.

While highly-skilled workers are the winners of international competition and provide the type of labor that is heavily demanded by foreign multinationals, the low-skilled lose out (Baccini, Pinto and Weymouth, 2017; Pandya, 2010). Thus, winners and losers are not only divided along the lines of who is exposed to economic globalization and who remains sheltered, but on the conditional effect of exposure and skill (Walter, 2010, 2017; Rommel and Walter, 2018).

3.2.2 Exposure to FDI Projects

Foreign direct investment exerts distributional effects at the individual level, which are advantageous for high-skilled people who are able to find secure and well-paying jobs in these multinational firms (Rommel, 2018). Yet, I argue that the distributional consequences of foreign direct investment are spatially confined. While these firms mainly employ people with better skills, this effect should be restricted to the workforce that lives in close proximity to the project or firm.[2] Therefore, a single FDI project will not significantly affect the

[2]This does not therefore preclude the possibility that people are moving to areas where foreign investment projects are implemented, as the distributive consequences will still occur around the site of the project.

national wage gap between high- and low-skilled people, but will most likely have an effect on income inequality in the local community that hosts the multinational firm.

While the contributions on the distributional effects of FDI and economic globalization introduced in the section above suggest that people working in 'exposed sectors' that face international competition, are either harmed or profit from foreign investment, I introduce another dimension of 'exposure'. I argue that we need to account for the spatial aspect of 'exposure', meaning that only people who live and work in a community where an FDI project is implemented are directly impacted by its distributive effects.

An FDI project increases employment opportunities for the high-skilled living in proximity to the site of implementation, as employees need to be able to commute to their workplace on a daily basis. FDI skews the demand of local labor markets toward more skilled workers, thus these people profit economically from the higher wages paid for their skills, and they should thus be less concerned with their employment situation. Low-skilled people in communities that host FDI projects are also exposed to the distributive impact of foreign investments, however, they are on the losing side. Their skill set does not fit the employment requirements of multinational firms. The best case scenario for these workers is that their employment situation remains stable. Yet, the firms employing low-skilled workers are threatened by increasing competition from multinationals. This puts pressure on the wages and might even result in more lay-offs for this group of workers. Even if the employment situation of low-skilled workers does not deteriorate directly, they are faced with an increasing wage gap compared to their high-skilled counterparts that should instill worries and dissatisfaction with their own wages and employment opportunities.

People living further away from the project site or even in an entirely different region of the host country, both high- and low-skilled, are not directly impacted. If the distance to the multinational firm is too large, these firms cannot serve as potential employers of high-skilled workers. Even if these people have the skills demanded by foreign multinationals they are located too far away to gain employment with the FDI project and cannot profit. Likewise, distant low-skilled workers are not impacted but also not threatened by the immediate competition of the foreign investor. Whereas each individual project contributes to regional or national wage gaps, its main effect will be spatially constricted around the site of implementation.

The aspect of spatial confinement is also important with regard to the argument that domestic firms that become part of the multinational supply chain can also profit, similarly employing a relatively high-skilled workforce that is able to negotiate higher wages. Findings in the literature on economic agglomeration effects and the spatial clustering of economic activity suggest that the majority of firms that supply intermediate goods to foreign multinationals are located in close proximity to the foreign investment project (Krugman, 1991, 1996). Not only does the foreign multinational increase the demand and subsequently the employment chances and wages of high-skilled workers in the affected community, domestic firms from which the foreign firm sources parts of its production reinforce these distributive effects. This entails that the high-skilled in exposed communities - meaning those that host a multinational firm - will benefit disproportionately compared to less-skilled individuals in the same community.

3.2.3 Distributive Effects, Grievances and Protest

For people to engage in protest they need both reasons and opportunity to become active. I argue that FDI affects both grievances and the opportunity to join protest in the exposed local communities and generally decrease the likelihood of people participating in demonstrations and strikes.

Existing research on individual participation in political protest and demonstrations clearly shows an over-representation of those with higher than average educational qualifications (Bratton, Mattes and Gyimah-Boadi, 2005; Norris, Walgrave and Van Aelst, 2005; Norris, Walgrave and van Aelst, 2006; Dalton, Van Sickle and Weldon, 2010). Resource mobilization theories (McCarthy and Zald, 1977; Verba, Schlozman and Brady, 1995) argue that these people have the knowledge, and therefore, the resources to formulate their concerns and organize with similarly affected or like-minded people to join their cause (Norris, Walgrave and Van Aelst, 2005). Education is at the same time the means by which people can acquire the skills demanded by foreign investors (Jones, 2001). Therefore, high-skilled workers are on average also highly educated and low-skilled people are often less educated. According to existing findings in the protest literature we would expect people with high educational attainments to participate most often and take over leading roles in the mobilization pro-

cesses and organization of demonstrations. While less-educated people participate as well, they are on average less likely to turn out on the streets.

However, the economic gains of FDI are unevenly distributed. While the highly-skilled, well-educated benefit economically, which alleviates their economic grievances, the employment opportunities for less-educated workers stagnate or deteriorate. This creates concerns and grievances for this group, especially when they compare their economic situation to that of their more educated counterparts. Such economic grievances play a central role in both theories of social unrest as well as explanations for civil war (Cederman, Gleditsch and Buhaug, 2013). Classical grievance theorists such as Davies (1962) and Gurr (1970) have argued that gaps between aspiration and outcome in relation to power or wealth can be important motivations for revolutions and collective violence. These theories propose that the relative deprivation of certain societal groups fuels violent conflict. Yet, relative deprivation theory and grievance approaches more generally have been confronted with heavy criticism, and a number of empirical findings clearly refute the link between being relatively worse off and participation in protest or civil war (Oberschall, 1978; Brush, 1996; Lichbach, 1989). Critics have emphasized that the most important factor for protest is not people's personal motivation, e.g. grievances, but rather the opportunity to participate or mobilization efforts which are determined by other factors such as the extent of repression by the government or the presence of entrepreneurs who are willing to organize collective action (Tilly, 1977; Opp, 2009; Tarrow, 2011).

My argument about the protest-deterring effect of FDI projects combines insights from both theoretical approaches. It acknowledges that without the potential to be translated into political action, grievances cannot account for protest participation. On the other hand, it seems unlikely that people without any motivation to protest spend both time and resources to take to the streets, only because they have the opportunity to do so. The distributional effects of foreign investment projects affect both of these aspects - who wants and who is able to protest - in a particular way. First, FDI alleviates economic grievances for the high-skilled, by securing well-paying jobs for this group of workers, reducing their motivations to organize and join protest. Second, other grievances, which might not be directly related to people's employment situation or material welfare, can be cushioned by greater financial stability and tone down reasons to engage in protest. This does not mean that well-educated workers are

suddenly absent from every demonstration, but are on average less likely to turn out when they are satisfied with their economic well-being and refrain from starting to mobilize others for protest activities.

However, the uneven distribution of gains from foreign investment disadvantage low-skilled workers (Rommel, 2018). Their economic grievances are not alleviated and can even increase from foreign investment projects in their community, especially, when they compare their economic well-being to that of the highly educated. However, the protest literature suggests that the less-educated are generally more passive in terms of political participation and protesting is also a demanding form of expressing grievance. It requires knowledge to organize protest and mobilize others to join, which is mostly done by more educated people (Bratton, Mattes and Gyimah-Boadi, 2005; Mueller, 2018). Yet, this cohort is appeased by the distributive effects of FDI, resulting in fewer protests being organized. This in turn means that other groups within the workforce have no outlet for their own grievances. While this does not entirely preclude that FDI projects might increase the likelihood of those not sharing the benefits of the investment to protest or demonstrate, the disadvantaged group is prone to silence and will rather withdraw from political participation than raise their concerns on the streets.

According to the uneven distributional consequences of FDI and the importance of both motivation and resources for participation in protest, I expect that employment opportunities and higher income from FDI projects generally work against protest participation in host communities. FDI projects eliminate or reduce material grievances and restrain protest activity by the social group that is normally most likely to demonstrate, the well-educated. Protest participation should generally decline in communities that host FDI projects as even economically disadvantaged and aggrieved societal groups, such as the low-skilled, lack the possibility to join a demonstration if groups that traditionally mobilize remain inactive. By affecting both grievances and opportunities to join protest, FDI has an overall protest-reducing effect in host communities despite its heterogeneous distributional consequences.

3.3 Research Design

To assess the effect of foreign direct investment on protest participation in host communities, I match geocoded survey data from the Afrobarometer with FDI project data. The

African countries covered by the Afrobarometer are diverse in their economic development and political situation. The sample covers upper middle income countries such as South Africa and Namibia but also some of the poorest countries worldwide such as Burundi or Malawi. In terms of political systems, the covered countries encompass relatively stable democracies such as Botswana but also longstanding autocracies like Zimbabwe. The results from such diverse settings should point to more generalizable patterns for both emerging and developing economies.

The next sections describe first the dependent variables, economic insecurity and subsequent protest participation, and then the independent variables: living in an FDI host community in conjunction with the individual education level. The FDI project dataset used for identifying local communities hosting FDI projects will be described in more detail, as well as the matching process of survey and FDI project data. For both steps of the following analysis, first the link between exposure to FDI projects and employment related worries and subsequently to protest participation, I use an estimation strategy that leverages both temporal and spatial variation in the data. This allows me to identify the effect of a project being implemented in a local community.

3.3.1 Outcome Variables

The mechanism of my theoretical argument connects foreign direct investment projects and protest participation via its distributional effects. In line with this two-step argument I test both the (perceived) distributional effects of FDI projects and how they impact individual propensity to participate in demonstrations with individual survey data from the Afrobarometer. Waves 2 to 6 of the survey cover a total of 36 African countries over the time period 2002-2015.[3] The survey aims for a representative cross-section of adults for the countries it covers. The entire survey data has been geocoded, meaning that survey clusters were assigned their unique longitude and latitude values.[4] The opportunity to geolocate survey

[3]The 36 African countries included in the survey are Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Ivory Coast, Egypt, Gabon, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia and Zimbabwe.

[4]Survey clusters are the smallest sampling units of the Afrobarometer, the size of neighborhoods in cities or smaller villages in rural areas (BenYishay, Rotberg, Wells, Lv, Goodman, Kovacevic and Runfola, 2017). For the analysis I exclude all respondents whose survey clusters could not be clearly geolocated, which results in 182,937 respondents in 13,156 survey clusters across 36 countries.

clusters and respondents living in these clusters is vital for matching the individual data to the FDI data described in the next section.

To test the first step of the argument, the heterogeneous distributional effects of FDI projects, I analyze how living in a community with an FDI project affects people's worries about employment security. Worries about getting laid of, unemployment or earnings all capture such employment related insecurities that are driven by the distributional consequences of FDI. To test the impact of FDI on these insecurities, I use a question that asks people to name the most pressing problem they face. Answers are categorized into overarching issue areas and I code all respondents whose first response falls either under the header of 'Wages, income and salaries' or 'Unemployment' as experiencing employment insecurity (1). All other answer categories are coded as not primarily worried about their employment situation (0).

The main question of this paper is, however, whether FDI projects affect people's likelihood to protest. To analyze the relationship between FDI and individual protest participation, I use a survey item that asks respondents whether they have attended a demonstration or protest march during the past 12 months. The answers range from 'No, would never do this, 'No, but would do if had the chance to 'Yes, once or twice', 'Yes, several times' and 'Yes, often. I recode the answer categories to distinguish between people who have participated (1) and those respondents who have not taken part in a demonstration during the last year (0). Slightly over 40% of respondents had taken to the streets in the previous year, while roughly 60% had not participated in either demonstration. *Figure 3.1* shows the share of respondents who had protested during the past 12 months over the entire time period for all surveyed countries. There is substantial variation across countries with regard to protest activities of citizens, but at least one fifth of respondents of each country had demonstrated in the year before they were interviewed.

3.3.2 Explanatory Variables

In line with my theoretical argument, I expect that protest propensity in communities with an FDI project is generally lower than in non-exposed communities. Yet, the protest-depressing effect should be especially pronounced for the high-skilled in these exposed communities. To

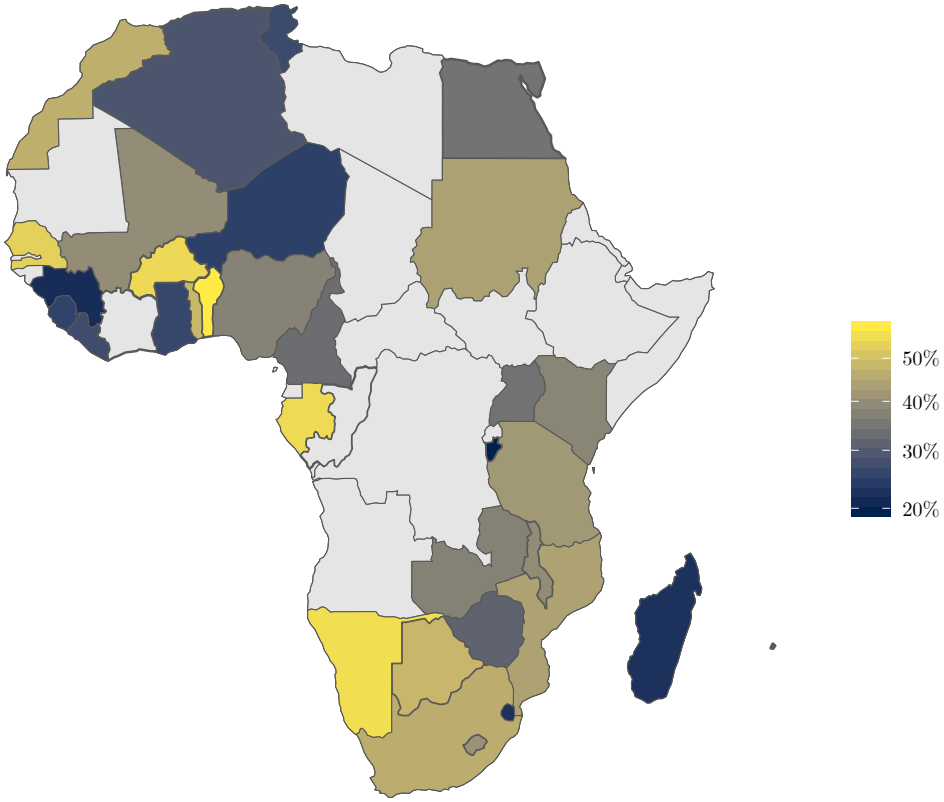


FIGURE 3.1: Share of Afrobarometer respondents who participated in protest (2002-2015).

test this expectation I use both exposure to FDI and the interaction between respondents' skill levels and living in a community where a project is implemented as explanatory variables.

To identify local communities that host FDI projects I use FDI project data from the 'fDi-Markets' database maintained by the Financial Times. The database records FDI projects on an ongoing basis starting in 2003. Except for an analysis by Owen (2019), which assesses the effect of FDI projects on electoral success on the communal level in Brazil, it has to my knowledge not been used for political science research. Nonetheless, the dataset is potentially interesting for a wide range of research as it allows for the study of not only aggregate national FDI in- and outflows but precise information on individual projects. Only this detailed information on individual project sites and investment dates allows me to test my argument about the importance of being 'geographically exposed' to FDI.

To maintain the database, the Financial Times collects information on new FDI projects, as well as expanding investments. A team of analysts uses multiple sources, news wires, various media sources, and information from industry organizations to collect information on each project. The database records project related information such as the home country of the investor, the investing company and the industry and activity of the respective project. In addition, it also registers the date of the investment, its (estimated) investment size and the number of jobs created.

For my analysis I use FDI projects implemented from 2003 to 2017 in countries covered by the Afrobarometer survey, which provides individual level data. The dataset records a total of 10,002 projects in these 36 countries throughout the entire time period. 84% of FDI projects recorded by the database are greenfield investments, where investors build new operations that can encompass new production facilities, offices and other facilities necessary for production and distribution. Another 16% of investment records refer to expansions of already existing FDI projects or co-locations. To identify the effect on protest propensity in local communities, it is vital that the database also includes detailed information on the location of the project: the host country, region and city. I use all projects that have an exact city location and geocode these cities to obtain latitude and longitude coordinates for each project. Restricting the sample to projects with precise geocodes at city level results in 6,206 greenfield projects in African countries from 2003-2017.[5]

Graph 3.2 shows the locations of all recorded FDI projects on the African continent for the entire time period. The projects are spread across 53 African countries with substantial variation in the recorded number of projects between these countries. While South Africa received 1,181 projects from 2003 to 2017 according to the fDiMarkets data, the country with the second highest number of projects, Morocco, attracted only about half of that number. Kenya, Nigeria and Egypt are also ranked in the top five FDI host countries. On the other hand, a large number of countries only host very few projects; 13 receive fewer than 10 projects during the whole period covered by my data. Amongst these countries that seem

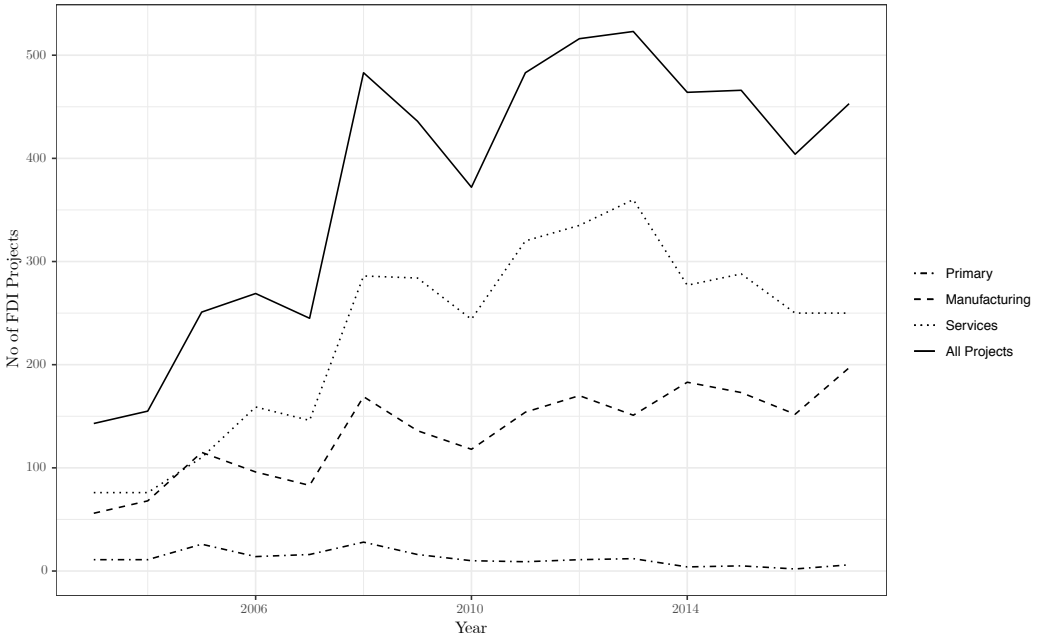
[5] By excluding projects without city location, I lose roughly one third of projects in the 36 African countries. On average these projects are smaller in terms of capital expenditure (average CAPEX of excluded projects is 70.63183$, geocoded projects 132.98729$). The average GDP per capita of host countries of excluded projects is slightly lower than the average in countries with geocoded projects. The host countries of excluded projects are also somewhat less free (PolityIV 6.67) than the ones of projects that remained in the sample (PolityIV 7.38).

FIGURE 3.2: Locations of FDI projects recorded by the fDiMarkets data between 2003 and 2017.

to be less attractive for FDI are small island states such as the Seychelles, Reunion or Cape Verde, but also larger countries such as Niger, Eritrea and the Central African Republic.

Over the 15 years that the database records projects there is a clear upward trend regarding foreign investment projects locating in African countries (see *Figure 3.3*). While there is a small drop in the overall growing number of FDI projects in 2008, most likely as a repercussion of the global financial crisis, the amount of new projects picks up again in 2010 but takes another small slump in 2013. Nonetheless, there is an overall positive trajectory showing growing numbers of foreign investment projects across the African continent. With 3,628 recorded projects overall, most foreign investment went to the tertiary sector, the majority of these being projects in the finance and insurance sub-sectors. In second place are investments going to manufacturing, the secondary sector. The biggest share of projects are investments in the manufacturing of computers and electronics. The database only records 215 projects in the primary sector over the whole time period. Within this larger sector the biggest share of projects (77) goes to mining projects (not including oil and gas extraction operations). Overall, a large majority of projects is implemented by parent companies located

in the United States (977 projects) and the United Kingdom (663), however projects stem from over 100 source countries worldwide.

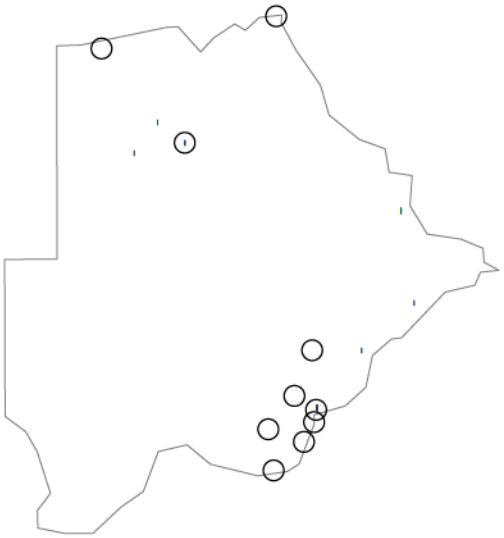


,

FIGURE 3.3: Number of FDI projects over time (different sectors).

The main explanatory variable of my analysis is the indicator for living in a community with an active FDI project. To identify the communities and respondents that host FDI projects, I identify all survey clusters that are within a certain cut-off distance to an FDI project. For this purpose, I draw circular buffer zones with a 25 km radius around each survey cluster location and measure whether at least one FDI project falls within this circle. As a robustness test I vary the core treatment area, the cut-off distance between respondents and projects to 10 and 50 km. For the main specification of the treatment area with the 25 km distance, overlaying survey clusters and FDI locations results in 4,246 matches. *Figure 3.4* visualizes this process for 10 randomly selected survey clusters in Botswana. In some cases there is no match and all recorded FDI projects are further away from the survey cluster than 25 kilometers. In other cases FDI projects are within the cut-off distance of one or even several survey clusters, if buffer zones around survey locations overlap. The matching process results in a simple binary indicator for either living in a community with an ongoing investment project (1) or not being exposed (community with no project - 0).

The theoretical argument suggests a conditional effect of 'geographic exposure' and individual skill. Therefore, I operationalize skill with a question from the Afrobarometer survey



,

FIGURE 3.4: Example for a random sample of survey clusters and FDI locations in Botswana.

data that asks respondents about 'the highest level of education' they have completed. As pointed out in the theoretical section, research on workers' skills and productivity suggests that both of these factors increase with years of schooling and that education can be used as a general proxy for skill (Jones, 2001; Krueger and Lindahl, 2001; Topel, 1999). While the proxy is less useful for specific skills, for example those acquired through on the job training, skill specificity should be less pronounced in my sample of countries, making educational attainment a reliable measure of respondents' individual skill. In addition, using the education item corresponds to the theoretical expectation that highly educated people should generally be more likely to participate in demonstrations according to resource mobilization theories. The education item ranges from 'No formal schooling' (0) to 'Post-graduate' (9). 15% of respondents report low levels of education, yet the median respondent has received primary education and another 14% of surveyed individuals received a university education.

3.3.3 Estimation Strategy

Probing the causal effect of FDI on individual protest is challenging as project sites are not randomly distributed within countries. To the contrary, existing research on FDI locations suggests that investors prefer locations with a well-developed infrastructure, areas with growing local markets, cities and villages with reliable political structures and social

stability (Nielsen, Asmussen and Weatherall, 2017). In essence, FDI projects are more likely to locate in places where firms expect the highest and safest returns on investments. This means that some local areas and respondents living in these places are more likely to be exposed to foreign investment projects than others. For the analysis of protest behavior it is especially important that investors might on the one hand be more prone to locate their projects in more peaceful areas, where less people participate in demonstrations and strikes. On the other hand, it could be the case that other positive aspects for investors such as growing markets or well-developed infrastructure are systematically linked to higher protest activity in the community. By only comparing respondents living within the cut-off distance to projects to those outside of this area, we cannot make any causal claims about the effect of FDI projects on protest participation.

To address this challenge, I rely on a geographical difference-in-difference design that leverages spatial-temporal variation to estimate the effect of FDI projects on individual protest participation. This strategy has been used in several studies assessing the effect of economic projects on individual attitudes and behavior (Kotsadam and Tolonen, 2016; Knutsen et al., 2017; Isaksson and Kotsadam, 2018*b*,*a*). In essence, this geographical difference-in-difference design makes use of the fact that there are not only treated and untreated respondent but rather three different types of respondents in the sample: those who live further than 25 kilometers away from a project site (not treated), the ones who live in a community where a project is implemented before they are interviewed (treated), and others where the project is not yet implemented but will be after they are interviewed (future treated).

By referencing the effect of living in a community with an ongoing FDI project against the impact of living in a community selected as a future site of FDI, but where the respondent is interviewed before the investment actually flows in, I am able to address the challenge of non-random selection of FDI locations. Interpreting the coefficient for an ongoing FDI project in isolation assumes that the site of a project is uncorrelated with the characteristics of this location before investment begins. As argued, this is an unlikely assumption due to the likely preference of investors for more stable and developed areas, amongst other factors that are potentially correlated with FDI project locations. Including the *future FDI* coefficient offers the opportunity to compare respondents' inclination to protest before and

after a project has been initiated in their environment and not only the likelihood to protest by respondents close to and far away from an FDI project.

Comparing protest participation for respondents who live in local communities with an ongoing FDI project to others where a project is implemented after they are interviewed also helps to circumvent the problem that the cross-sectional nature of the Afrobarometer data does not enable the study of the same individual before and after an FDI project is implemented in the local environment. By referencing those exposed to an FDI project to future FDI-treated respondents, we can still compare individuals before and during an FDI project is implemented, leveraging the temporal and spatial variation of the Afrobarometer. The regression for the analysis then looks like follows:

$$= \quad * \textit{active FDI} + \quad * \textit{future FDI} + \quad + \quad + \quad * \quad +$$

The dependent variable is , the reported protest participation of a respondent i in a survey cluster v in the 12 month period before the interview takes place. The estimation strategy relies on the difference between the estimate for the binary independent variable for an *active* FDI project in the respondent's surrounding and a similarly binary independent variable for a *future* FDI project; - . While my theoretical argument suggests that protest propensity in FDI host communities is generally lower, it builds on heterogeneous distributive effects and suggests that we should see a more pronounced effect for high-skilled respondents. To test this conditional effect of FDI on employment insecurities and subsequent protest behavior, I therefore include an interaction between the variable for an active FDI project and respondents' education level, as well as and interaction for living in a community with a future project and individual education. For this version of my analysis, I receive a difference-in-difference estimate for each educational group in the sample.

To account for unobserved time-specific trends affecting protest in all units equally, I include year fixed effects ( ). I also add spatial fixed effects on the regional level ( ), controlling for region-specific unobserved characteristics affecting protest participation. Second, I run additional models that include region-specific linear time trends, accounting for varying trajectories regarding protest in different regions over time. Finally, I run models that exclude all future project sites where the date of the interview is more than five years ahead of project implementation. Restricting the sample in this way strengthens the assumption that host and future host locations are comparable and limits the potential of a time trend that

could account for the protest participation patterns. At the individual level the regression includes age, gender, whether the respondent is unemployed, lives in an urban or rural area and experiences ethnic discrimination as controls ($*$). Standard errors are clustered at the survey cluster level to account for correlated errors.

An alternative strategy is to only include respondents from survey clusters that have been interviewed before and after the implementation of an FDI project in the respective area. This approach limits the sample size significantly, as it requires observations of the same Afrobarometer cluster in different survey waves. Furthermore, this produces a specific subsample of respondents that is clearly skewed to more rural areas, where the likelihood of the same survey cluster appearing in two different waves is substantially higher than in more urban areas. In this reduced sample, that only includes areas where respondents have been interviewed before and after the implementation of an FDI project, 74% of respondents live in a rural setting, whereas only 40% in the original sample live in rural areas. Therefore, it is difficult to compare the results of the analysis based on the two different samples. However, in this specification the coefficient for the effect of an ongoing FDI project is directly interpretable and does not need to be referenced to the effect of future investments.

The next section shows the main results of the analysis; it starts by shedding light on how people perceive their employment situation when FDI projects are implemented in their communities. In the second step I show the findings for the effect of FDI on protest participation. For both analyses I show the non-interacted and interacted model to illustrate the importance of accounting for diverse effects of investments conditional on people's skills. In the Appendix, I also present the results from the subsample which only relies on respondents from survey clusters where interviews were conducted both before and after project implementation.

3.4 Results

To scrutinize the mechanism that connects FDI projects and protest, the first section of the results displays the impact of living in an FDI host community on employment insecurities. It shows that, in line with the argument, FDI projects mainly profit the high-skilled, who are less concerned about employment and wages. The following section shows the impact of FDI on respondents' protest behavior and reveals the protest-deterring effect of foreign

investment projects. It also traces the heterogeneous effects depending on individual skill, showing that FDI mainly affects the protest participation of the highly educated.

3.4.1 Employment Insecurity Results

My theoretical argument suggests that FDI projects predominantly employ high-skilled workers. Thus, these are the workers who profit from FDI and should be less worried about their employment situation and salaries. *Table 3.1* shows the results for reporting concerns about employment security, respectively reports of respondents who are mainly worried about either wages or jobs.

Column 1 displays a non-interacted model, showing that people in communities with an ongoing FDI project are less likely to name their employment status as the most important problem. However, using only this estimate could over- or underestimate the effect of FDI on employment insecurities due to the potentially endogenous location decision of investors. The spatial difference-in-difference setup solves this issue by referencing the effect of living near an already existing, active project on people's employment situation to the effect of living in a community where an FDI project will be implemented only after the respondent has been interviewed (future project).

The difference-in-difference estimate obtained by subtracting the coefficient for a future FDI project from that of an ongoing, active one (-), is negative and significant: People in communities that receive FDI are about 4% less likely to name either wages or unemployment as their major concerns. Yet, this specification still overlooks the argument about the heterogeneous distributive effects of FDI and subsequent differences in job related worries for high- and low-skilled people when FDI projects are implemented. The interacted model reflects the expectations of the theoretical argument that only worries of the high-skilled should decrease substantially when FDI projects are located in their community. The results highlight that only using a non-interacted model would conceal the heterogeneous effects of FDI on people with different educational backgrounds.

In the model that includes the interactions with respondents' education, an ongoing FDI project in a local community does not have an independent effect on being concerned about jobs or wages. The interaction effect of an active FDI project and education, however,

TABLE 3.1: Effect of FDI projects on employment insecurity.

	Dependent variable:	
	Employment Insecurity	
	(1)	(2)
Active FDI Project	−0.01**	0.004
	(0.01)	(0.01)
Future FDI Project	−0.0002***	−0.0002***
	(0.0001)	(0.0001)
Education	0.03***	0.01
	(0.01)	(0.01)
Age	−0.01***	−0.01***
	(0.001)	(0.001)
Female	0.01***	0.01***
	(0.001)	(0.001)
Urban	−0.01**	−0.01**
	(0.003)	(0.003)
Unemployed	−0.001	−0.001
	(0.002)	(0.002)
Ethnic Grievnace	0.01***	0.01***
	(0.002)	(0.002)
Active FDI*Education		−0.004***
		(0.001)
Future FDI*Education		0.01***
		(0.002)
Year FE	✓	✓
Region FE	✓	✓
Difference-in-difference	-0.04	see *Figure 3.5*
p Value of F test	0.00	see *Figure 3.5*
Observations	137,799	137,799
Note:		*p<0.1; **p<0.05; ***p<0.01. Standard errors clustered on survey cluster.

suggests a decrease in employment related worries in communities with an active FDI project the higher the educational attainment of the respondent.

The coefficient for a project that will be implemented after the interview is also significant but positive. This shows that we would underestimate the effect of an FDI project without accounting for the selection bias of investors, who seem to choose places where people are more prone to report employment related problems. In communities where an FDI project will be implemented in the future, the high-skilled are more likely to report concerns about wages and employment than people with lower skills. To get at the causal effect of FDI, we need to look at the difference between the impact of an ongoing and future project. With the interaction between exposure and education we receive not only one estimate anymore but essentially get a difference-in-difference estimate for each education group.

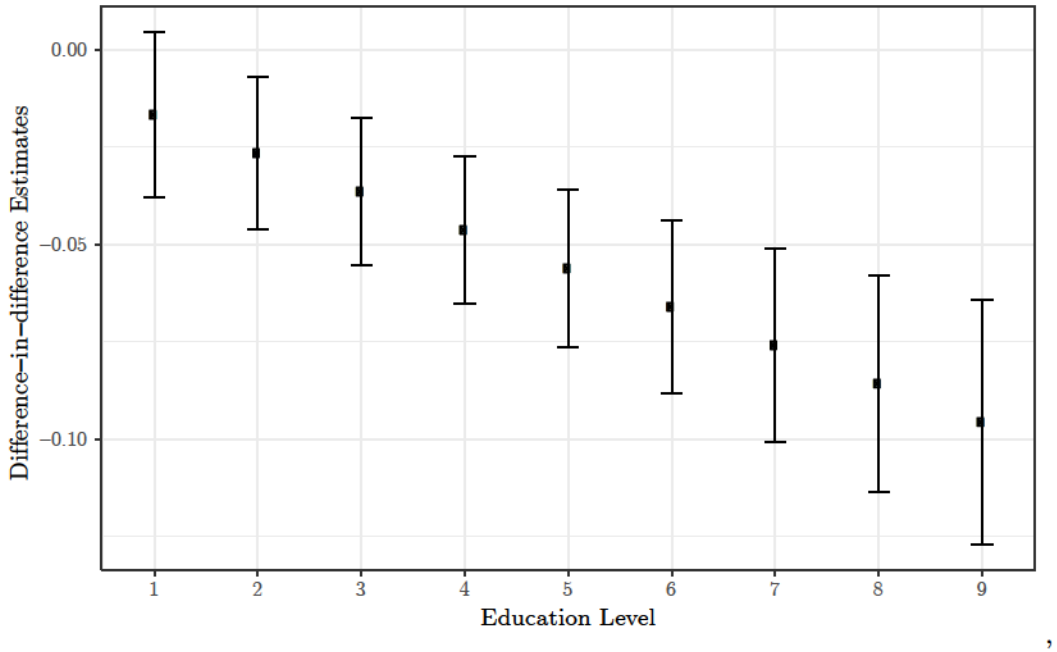


FIGURE 3.5: Effect of FDI on employment insecurity, estimates depending on education level.

Figure 3.5 shows the difference-in-difference estimates and the 95% confidence intervals for all education levels in the sample. Highly educated respondents are far less likely to name wages and employment as dominant concerns when FDI projects are implemented in their communities. This positive effect on employment insecurity is far less pronounced or even non-existent for low-skilled respondents whose worries are not eliminated through these investment projects. These results support the proposed mechanism linking FDI projects and protest participation via the perceived distributive effects of FDI. While analyzing people's perceptions regarding problems with wages or employment in response to FDI projects does not reveal the objective distributive consequences of FDI, it captures people's economic

grievances more directly. Testing the theoretical mechanism with this indicator for employment insecurities is therefore suitable to capture the type of worries or concerns that FDI can alleviate for the group of well-educated respondents and who report, in line with my argument, significantly fewer grievances related to wages or jobs when they live in proximity to an FDI project.

3.4.2 Protest Results

The next step of the analysis tests the impact of FDI projects on protest participation. Column 1 of *Table 3.2* first shows the result for a non-interacted model. It shows that FDI projects tend to decrease the inclination to participate in protest for respondents living in communities with FDI projects. Importantly, the coefficient for an active FDI project within 25 km of an interviewed person is significantly linked to a 3 percentage point reduction in likelihood of engaging in protest.

Focusing on the coefficient for an active project alone is, however, problematic. As discussed in the estimation strategy section we cannot expect that the allocation of FDI projects is uncorrelated with the already existing propensity to engage in protest. The coefficient for living in a community where a project will be implemented in the future, shows that FDI projects are indeed more often located in areas where we observe a higher probability of people engaging in demonstrations. Thus, we would underestimate the protest decreasing effect of FDI if we did not reference it against the estimate for future projects. This underlines the necessity to account for systematic differences of FDI project locations from other areas with regard to factors that impact protest behavior.

According to the difference-in-difference estimate, people in communities that receive an FDI project are six percent less likely to participate in demonstrations; the implementation of an FDI project clearly exerts a protest-deterring effect. It is important to note that this protest decreasing result appears in a relatively conservative setup, controlling spatially for regional variation as well as including year fixed effects. Column 1 of *Table 3.A.1* in the Appendix shows the main specification with a less restrictive setting using only country and year fixed effects. In this case the estimate for future projects alone is a bit weaker and the active FDI coefficient is stronger and still significant. The resulting difference-in-difference estimate is almost identical to that of the more restrictive setup (- 0.05 compared

to - 0.06). Protest participation in FDI communities is roughly five percentage points less likely compared to communities not chosen by investors for their projects. The results from an even more conservative specification, including linear regional time trends that control for varying developments over time in different regions, are encouraging (see column 2 of *Table 3.A.1* in the Appendix). In this model people in communities that receive an FDI project are 4 percentage points less likely to participate in protest than in communities with no projects.

While the year fixed effects control for general differences across years in protest participation, one concern is that there might be timing effects related to a potential change in the type and impact of FDI projects over time. The procedure of coding respondents as living nearby an active or future project depending on the interview date ensures variation in project status for all investments. Yet, the divergence in covered time periods of the Afrobarometer (2002-2015) and fDi market data (2003-2017) results in more respondents living close to an ongoing project over time. Over 55% of respondents who are coded as living in a community with an active project are interviewed in 2013, 2014 and 2015. Only about eight percent of people interviewed between 2004 and 2006 lived near an ongoing FDI project. To address this issue, I run a model excluding all respondents interviewed before 2004, the first year when a respondent can potentially be living close to an ongoing project, and all respondents who are coded as living near a future FDI project site based on projects implemented in either 2016 or 2017. Results based on this sample are comparable to the results from the full sample. People in communities where a foreign firm invests are still about 6 percent less likely to participate in demonstrations than those unexposed to such investment (see column 3 of *Table 3.A.1* in the Appendix).

Column 4 of *Table 3.A.1* in the Appendix shows the results for the subsample of survey clusters where interviews have taken place both before and after the implementation of an FDI project. While the sample is systematically different from the original used for the difference-in-difference strategy, the results are still interesting, bearing in mind that the results are now based to a much larger extent on interviews from rural settings. In this scenario the negative effect of living near an FDI project site (active FDI project) can be interpreted on its own, as the subsample allows us to leverage the variation over time within the same survey locations. The protest-deterring effect also holds when using this

TABLE 3.2: Effect of FDI Projects on the protest participation.

	Dependent variable:	
	Participated in Protest	
	(1)	(2)
Active FDI Project	−0.03***	0.003
	(0.01)	(0.01)
Future FDI Project	0.03***	0.03*
	(0.01)	(0.01)
Education	0.01***	0.02***
	(0.001)	(0.001)
Age	−0.003***	−0.003***
	(0.0001)	(0.0001)
Female	−0.07***	−0.07***
	(0.002)	(0.002)
Urban	−0.0005	0.0002
	(0.004)	(0.004)
Unemployed	0.03***	0.03***
	(0.003)	(0.003)
Ethnic Grievance	0.05***	0.05***
	(0.003)	(0.003)
Active FDI*Education		−0.01***
		(0.002)
Future FDI*Education		0.001
		(0.003)
Year FE	✓	✓
Region FE	✓	✓
Difference-in-difference	-0.06	see *Figure 3.6*
p Value of F test	0.00	see *Figure 3.6*
Observations	138,827	138,827
Note:		*p<0.1; **p<0.05; ***p<0.01.
		Standard errors clustered on survey cluster.

subsample of respondents in survey clusters that have been sampled both before a project was implemented in the local community and after it had started. People were about 7 percentage points less likely to take to the street when living in an FDI host community.

Last, column 5 of *Table 3.A.1* excludes all respondents living around future project sites where the date of the interview is more than five years ahead of the implementation of the project. The results from the analysis using only respondents in localities where project implementation happened within the next five years corroborates the main protest-deterring findings.

The results substantiate the theoretical expectation that the general protest propensity in communities that receive FDI projects should decrease. Yet, my argument relies on the uneven material benefits of foreign direct investment which should affect protest participation differently. The results for the impact of FDI on employment insecurities show that FDI mainly profits the high-skilled, reducing their economic worries and grievances. In line with this argument, the high-skilled are the group whose protest activity is most depressed by foreign investment. Therefore, column 2 of *Table 3.2* displays the results for the model that interacts both the presence of an active and future project in a local community with the educational achievement of the respondent.

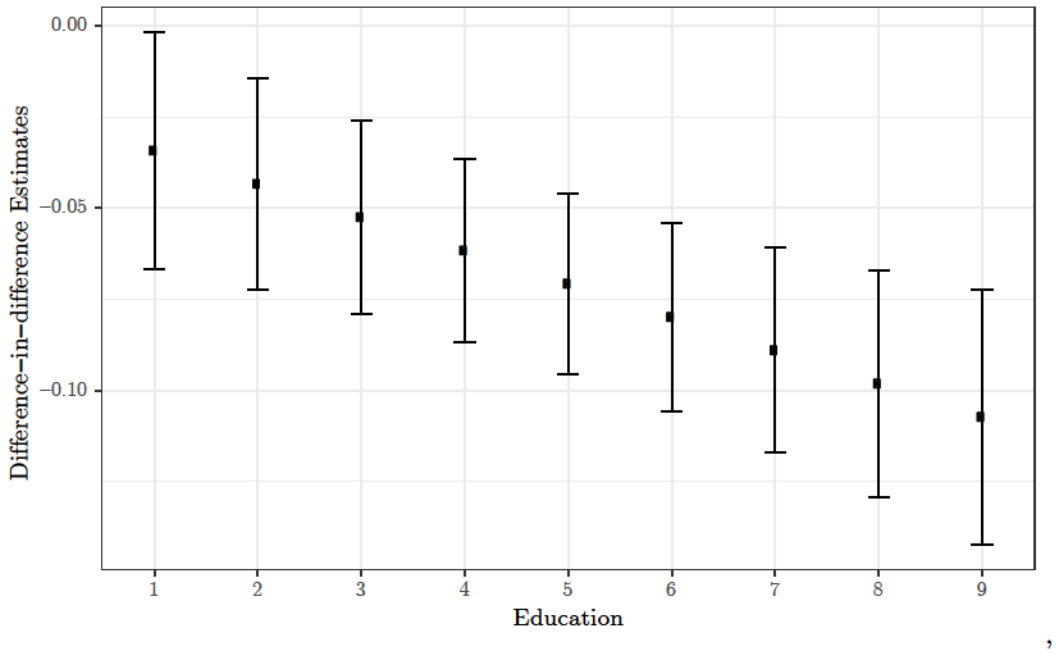


FIGURE 3.6: Effect of FDI on protest participation, estimates depending on education level.

Living close to an active FDI project still significantly decreases the likelihood of people participating in protest the higher the respondent's education level. Interacting future projects and education does not yield a significant effect. While active projects have heterogeneous distributional consequences that affect protest participation depending on edu-

cational backgrounds, future projects do not yet have these effects. The lack of a significant interaction of education and future FDI projects suggests that this estimate does not pick up future or expected distributional consequences, but rather controls for the selection bias of investors. However, we still need the difference-in-difference estimate to assess the effect of FDI on protest participation and with the interaction, we receive again a difference-in-difference estimate for each education group. The different estimates are visualized in *Figure 3.6* and show that the protest decreasing effect of FDI projects is stronger the more educated the respondent.

In line with the argument, FDI projects affect the protest propensity of highly-skilled people negatively - they turn out less often. People with lower skills are not affected in their protest participation. Yet, given the heterogeneous distributive effects of FDI analyzed above, we would expect low-skilled people to protest more. The finding that the economically disenfranchised remain inactive, and refrain from voicing their concerns publicly, points to the lack of opportunity and resources to engage in protest. One important explanation for their inertness when it comes to voicing their grievances through collective action is the impact of FDI projects on educated people who normally organize protest: when they are appeased and become less active so do those who rely on their work in creating the opportunities to demonstrate.

Table 3.B.2 in the Appendix shows first the results of the interacted model for the less conservative setting using only country and year fixed effects (column 1). In this specification the constituent term for future projects has no significant effect on protest participation anymore. All other coefficients are largely similar. Importantly, the interaction still points in the same direction, showing that the more educated people are in communities that receive FDI projects, the less likely they are to participate in demonstrations (see also *Figure 3.B.1* in the Appendix). The differences regarding the effect of investment by foreign firms on protest participation, depending on people's education, are somewhat weaker when controlling for region-specific linear time trends (results reported in column 2 of *Table 3.B.2* and *Figure 3.B.2* in the Appendix). However, they reiterate that the protest-reducing effect is most pronounced for educated people.

The third column of *Table 3.B.2* displays the result for the sample excluding both respondents interviewed before 2004 and those respondents living in communities where an

FDI project would be implemented in 2016 or 2017. Again, even though the overall finding is corroborated, the differences between differently educated people are slightly less pronounced for this specific sub-set. Column 4 of *Table 3.B.2* shows the results for the sample of respondents from survey clusters that were interviewed before and after the implementation of an FDI project. The results of this predominantly rural sample still show the same direction of influence for FDI projects with the highly educated participating less than the less-educated in host communities; however, the interaction is not significant. This could, on the one hand, be the result of the substantial difference in terms of rural-urban divide regarding the two samples or stem from the larger uncertainty resulting from a substantially smaller sample.

To further scrutinize the robustness of the results, I also vary the cut-off distance between FDI projects and survey respondents to 10 and 50 kilometers. Results for these two different core treatment areas are presented in *Table 3.C.3* of the Appendix. The findings all reiterate the overall protest-decreasing effect of FDI projects in host communities. The results from the model relying on a 10 km treatment area are weaker. This can be explained by the lower number of matching survey clusters and project locations, resulting in significantly fewer respondents coded as living in an area where an FDI project is implemented (roughly 42,000 compared to 64,000 with a core treatment area of 25 km). Additionally, a 25 km cut-off distance reflects more adequately the distance people are able to cover to go to work in the surveyed countries (Bryceson, Mbara and Maunder, 2003; Moselakgomo, Mokonyama and Okonta, 2017). Changing the cut-off distance to 50 km creates stronger results, which could be due to a correspondingly higher number of respondents that live in a community with an FDI project (95,000). However, research suggests that commuting 50 km to work is too demanding in most of the countries and regions analyzed here. Yet, the robustness and significance of the protest-deterring effect of FDI, in a radius 10 or 50 km around the site of implementation, reinforce the results of the main findings.

Overall, the findings of this analysis show a clear protest-deterring effect of FDI projects. They particularly suggest that people whose employment situation is improved by foreign investments, the highly-skilled, become engaged in collective action. The economically disadvantaged, less-skilled inhabitants of communities where foreign firms invest also remain inactive and do not choose to express potential grievances through protest. This could be

due to the lack of opportunities to join protests organized by the high-skilled or their stagnating economic situation. Despite the uneven distributive effects of FDI we do not have to fear more instable communities that have to deal with demonstrations from the aggrieved losers of foreign investments.

3.5 Conclusion

This paper shows how foreign direct investment projects, which are a major component of economic globalization, have important effects on political stability and impact people's political behavior. In many developing countries these capital flows have exceeded official development aid and we need to understand better how this impacts the societies that host foreign multinationals. People who are exposed to this type of international capital flow react differently depending on the distributional effects of FDI. Being exposed to FDI, which means living in a community that has attracted an FDI project, reduces the perceived labor market risks of highly-skilled people. These are the workers demanded by foreign firms, improving their job opportunities and wages. Accordingly, this group has less economic grievances when exposed to FDI projects. In contrast, the low-skilled lose out when they live in a community that hosts a project. In contrast to the high-skilled, they are not employable for thriving foreign firms or their equally successful suppliers. Facing downward pressure on their wages and a greater risk of unemployment, in addition to a rising gap to others with more skills, should increase the potential for economic grievances felt by this group.

These distributional effects result in high-skilled, well-educated workers having less motivation to protest - they participate less when FDI projects are located in their community. According to this logic, we would first expect that the less-skilled voice their increasing concerns on the streets and therefore protest more. However, for people to participate in protest they not only need a motivation but also the opportunity to do so. The finding that the protest behavior of the less-educated is not affected by FDI can be explained by the fact that there are fewer opportunities to join a demonstration, which is due to the fact that FDI appeases the group most prone to organize protest, the well-educated.

The paper assesses the link between foreign direct investment projects and protest participation in African communities over almost 15 years. While the importance of FDI as driver of economic development for both emerging and developing countries is increasing,

this source of international capital is still very volatile and its individual distributive effects and political consequences need further scrutinizing (UNCTAD, 2017). The sample encompasses FDI projects in countries at different development stages and allows us to analyze the impact of foreign investment in both very poor settings and more developed regions. This set-up shows that in spite of the different development levels and economic trajectories throughout the surveyed countries, education remains the most important determinant to be able to profit from economic globalization and ensure political stability.

The results contribute more broadly to our understanding of the link between economic globalization and public protest in two different ways. First, they account for the heterogeneous distributional consequences of FDI and show that the political behavior of people follows these material effects. It builds on empirical findings and theoretical contributions that suggest that globalization affects people differently, depending on both exposure and skill level, and offers a new theoretical understanding of and empirical approach to the concept of being exposed to foreign investment. While it does not neglect the importance of distinguishing between sectors that are exposed to global competition from foreign firms and those sheltered from this type of pressure, it proposes that there is also an important geographical aspect to exposure. FDI projects are not equally distributed across the entire country and their distributive consequences do not affect everyone. In contrast, the impact of FDI is felt predominantly in the local communities and labor markets onsite where people are directly 'exposed' to the particular distributive impacts of a foreign firm locating in their city.

Research on the political effects of FDI so far has often focused on the national level, linking national averages of FDI inflow and political phenomena such as protest events (Robertson and Teitelbaum, 2011) or regime stability (Rommel, 2018).[6] Yet, this chapter aims to advance our understanding of the effect of economic globalization on the micro-level, linking specific FDI projects and individual political behavior and assesses how FDI affects political stability and individuals living in the communities that host these projects. Empirically this is possible due to information on the location of individual FDI projects and geocoded survey data that asks respondents whether they have participated in demonstrations. By linking these two data sources and leveraging both spatial and temporal variation in exposure to

[6] An example using the same disaggregated FDI project data is the study on electoral success of mayors in Brazil by Owen (2019).

FDI projects, I am able to assess the effect of FDI on protest participation. By referencing the impact of ongoing FDI projects to that of future projects not yet implemented at the time of the survey taking place, the geographical difference-in-difference strategy accounts for the non-random selection of FDI locations by investors and circumvents the problem that we cannot draw on panel data from communities with FDI projects.

The results confirm that it is indeed necessary to account for the selection biases of investors regarding the location of projects, as they often choose communities with an a priori higher protest participation rate. The analysis also clearly shows that people are affected differently both in terms of their perceived employment security as well protest participation, depending on their education level. The high-skilled winners of FDI who are less preoccupied with job loss or low wages become more inactive and refrain from protesting, most probably lacking the motivation to invest time and effort in this endeavor. With fewer opportunities to join a demonstration, that is normally organized by the more educated, the participation rate amongst less-educated workers stagnates as well.

While the survey data does not ask why people decide to protest, the link proposed here is that FDI eases economic grievances for a particularly active group in society, the high-skilled. To specify the mechanism more precisely and tease out whether reduced economic grievances account for the drop in participation by well-educated, we would need more detailed data on protest participants regarding both their motivation as well as questions pertaining to whether they only joined or actively organized a demonstration. Yet, the results presented here reflect findings from the conflict literature that uncover a 'peace dividend' of globalization (Bussmann, Scheuthle and Schneider, 2006) and show that FDI in general, in contrast to investments in natural resource extraction (Christensen, 2019), is conducive to politically stable communities.

Supplementary Materials

3.A Non-interacted Protest Models

TABLE 3.A.1: Effect of FDI projects on the protest participation.

	Dependent variable:				
	Participated in Protest				
	(Country+Year FE)	(Region∗Year FE)	(Subsample A)	(Subsample B)	(Subsample C)
Active FDI Project	−0.03***	−0.01	−0.02**	−0.06**	−0.02***
	(0.01)	(0.01)	(0.01)	(0.03)	(0.01)
Future FDI Project	0.02***	0.04***	0.03**		0.03***
	(0.01)	(0.01)	(0.02)		(0.01)
Education	0.01***	0.01***	0.01***	0.01***	0.01***
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Age	−0.003***	−0.003***	−0.003***	−0.003***	−0.003***
	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0001)
Female	−0.07***	−0.07***	−0.07***	−0.06***	−0.07***
	(0.002)	(0.002)	(0.003)	(0.01)	(0.002)
Urban	0.01	0.001	0.001	−0.01	−0.002
	(0.004)	(0.004)	(0.005)	(0.01)	(0.004)
Unemployed	0.04***	0.03***	0.03***	0.03***	0.03***
	(0.003)	(0.003)	(0.003)	(0.01)	(0.003)
Ethnic Grievance	0.05***	0.04***	0.05***	0.03***	0.05***
	(0.003)	(0.003)	(0.004)	(0.01)	(0.003)
Year FE	✓		✓	✓	✓
Country FE	✓				
Region FE			✓	✓	✓
Region*Year FE		✓			
Difference-in-difference	-0.05	-0.04	-0.06		-0.06
p Value of F test	0.00	0.01	0.00		0.00
Observations	139,167	138,827	120,638	27,376	136,544

Note: *p<0.1; **p<0.05; ***p<0.01. Standard errors clustered on survey cluster.

- Model with Subsample A excludes all respondents interviewed before 2004, and all respondents who were coded as living near a future FDI project site based on projects implemented either in 2016 or 2017.
- Model with Subsample B only includes survey clusters that have been interviewed before and after the implementation of an FDI project.
- Model with Subsample C excludes all future project sites where the date of the interview is more than five years ahead of the implementation of the project.

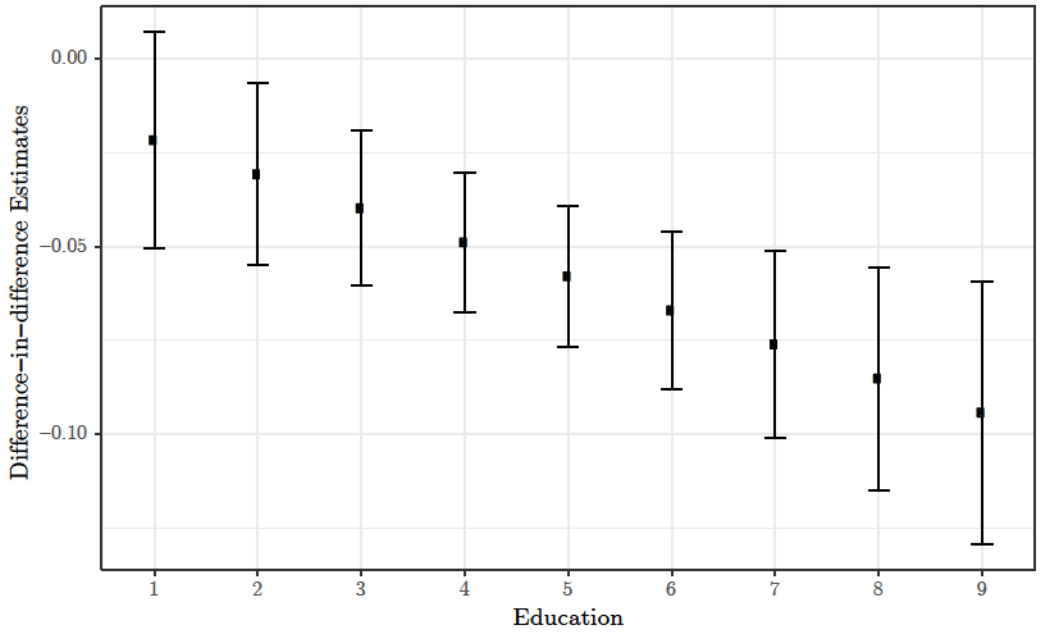
3.B Interacted Protest Models

TABLE 3.B.2: Effect of FDI projects on the protest participation.

	Dependent variable:				
	Participated in Protest				
	(Country+Year FE)	(Region∗Year FE)	(Subsample A)	(Subsample B)	(Subsample C)
Active FDI Project	0.004	0.02*	0.005	−0.03	0.01
	(0.01)	(0.01)	(0.01)	(0.03)	(0.01)
Future FDI Project	0.02***	0.02***	0.02***	0.02***	0.02***
	(0.001)	(0.001)	(0.001)	(0.003)	(0.001)
Education	0.03**	0.04***	0.05**		0.03*
	(0.01)	(0.01)	(0.02)		(0.02)
Age	−0.003***	−0.003***	−0.003***	−0.003***	−0.003***
	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0001)
Female	−0.07***	−0.07***	−0.07***	−0.06***	−0.07***
	(0.002)	(0.002)	(0.003)	(0.01)	(0.002)
Urban	0.01*	0.002	0.002	−0.004	−0.001
	(0.004)	(0.004)	(0.005)	(0.01)	(0.004)
Unemployed	0.04***	0.03***	0.03***	0.03***	0.03***
	(0.003)	(0.003)	(0.003)	(0.01)	(0.003)
Ethnic Grievance	0.05***	0.04***	0.05***	0.03***	0.05***
	(0.003)	(0.003)	(0.004)	(0.01)	(0.003)
Active FDI*Education	−0.01***	−0.01***	−0.01***	−0.01**	−0.01***
	(0.002)	(0.002)	(0.002)	(0.004)	(0.002)
Future FDI*Education	−0.002	−0.001	−0.004		0.0001
	(0.003)	(0.003)	(0.004)		(0.003)
Year FE	✓		✓	✓	✓
Country FE	✓				
Region FE			✓	✓	✓
Region*Year FE		✓			
Difference-in-difference	see *Figure 3.B.1*	see *Figure 3.B.2*	see *Figure 3.B.3*		see *Figure 3.B.4*
Observations	139,167	138,827	120,638	27,376	136,544

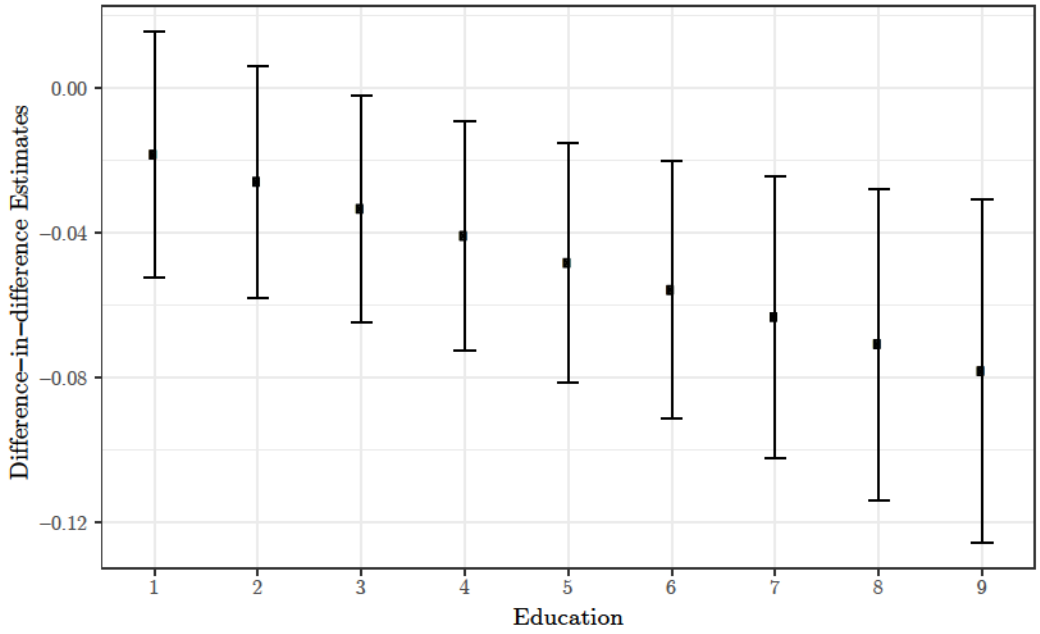
Note: *p<0.1; **p<0.05; ***p<0.01. Standard errors clustered on survey cluster.

- Model with Subsample A excludes all respondents interviewed before 2004, and all respondents who were coded as living near a future FDI project site based on projects implemented either in 2016 or 2017.
- Model with Subsample B only includes respondents from survey clusters that have been interviewed before and after the implementation of an FDI project.
- Model with Subsample C excludes all future project sites where the date of the interview is more than five years ahead of the implementation of the project.



,

FIGURE 3.B.1: Effect of FDI on protest participation depending on education (country and year fixed effects).



,

FIGURE 3.B.2: Effect of FDI on protest participation depending on education (region∗year fixed effects).

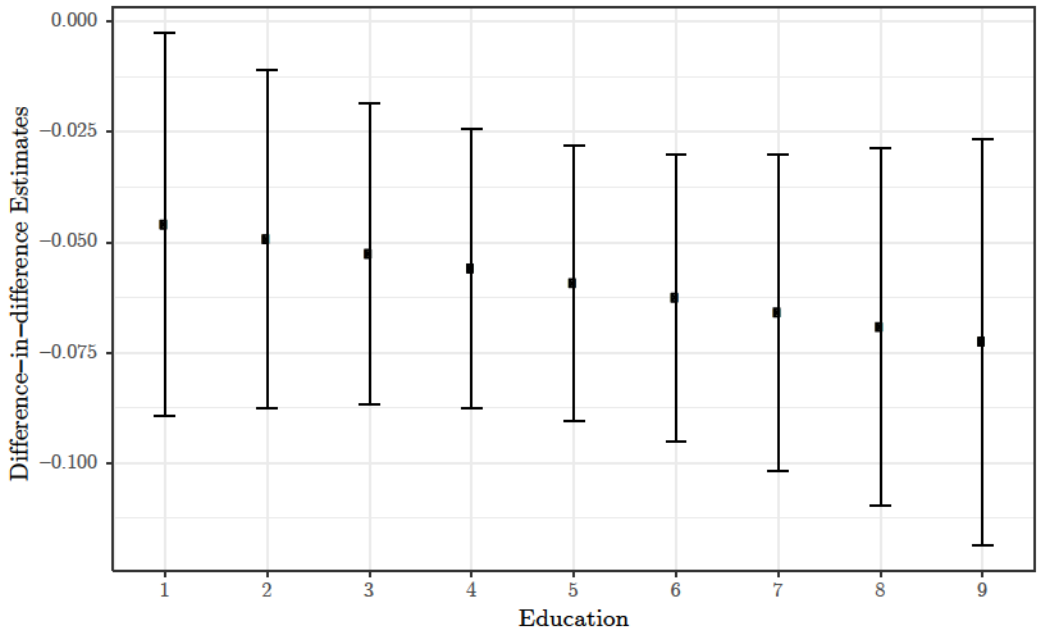


FIGURE 3.B.3: Effect of FDI on protest participation, estimates depending on education level (subsample A).

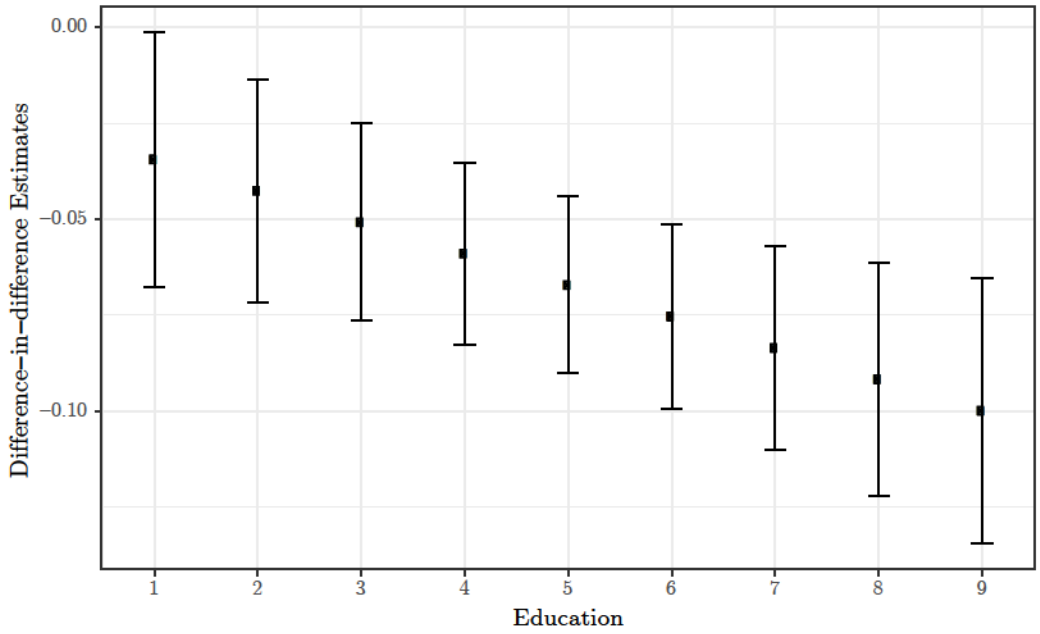


FIGURE 3.B.4: Effect of FDI on protest participation, estimates depending on education level (subsample C).

3.C Robustness Different Cut-off Distances

TABLE 3.C.3: Effect of FDI Projects on protest participation.

	Dependent variable:			
	Participated in Protest			
	(1)	(2)	(3)	(4)
	10km	10km	50km	50km
Active FDI Project	−0.01	0.02	−0.03***	−0.005
	(0.01)	(0.01)	(0.01)	(0.01)
Future FDI Project	0.02**	0.02	0.02*	0.01
	(0.01)	(0.02)	(0.01)	(0.01)
Education	0.01***	0.01***	0.01***	0.02***
	(0.001)	(0.001)	(0.001)	(0.001)
Age	−0.003***	−0.003***	−0.003***	−0.003***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Female	−0.07***	−0.07***	−0.07***	−0.07***
	(0.002)	(0.002)	(0.002)	(0.002)
Urban	−0.001	0.0001	−0.002	−0.001
	(0.004)	(0.004)	(0.004)	(0.004)
Unemployed	0.03***	0.03***	0.03***	0.03***
	(0.003)	(0.003)	(0.003)	(0.003)
Ethnic Grievance	0.05***	0.05***	0.05***	0.05***
	(0.003)	(0.003)	(0.003)	(0.003)
Active FDI*Education		−0.01***		−0.01***
		(0.002)		(0.002)
Future FDI*Education		0.001		0.002
		(0.003)		(0.002)
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Difference-in-difference	-0.04	see *Figure 3.C.5*	-0.05	see *Figure 3.C.6*
p Value of F test	0.00		0.00	
Observations	139,640	139,640	137,392	137,392

Note: *p<0.1; **p<0.05; ***p<0.01. Standard errors clustered on survey cluster.

- Models 1 and 2 are based on 10km cut-off distances between survey respondents and FDI projects.
- Models 3 and 4 are based on 50km cut-off distances between survey respondents and FDI projects.

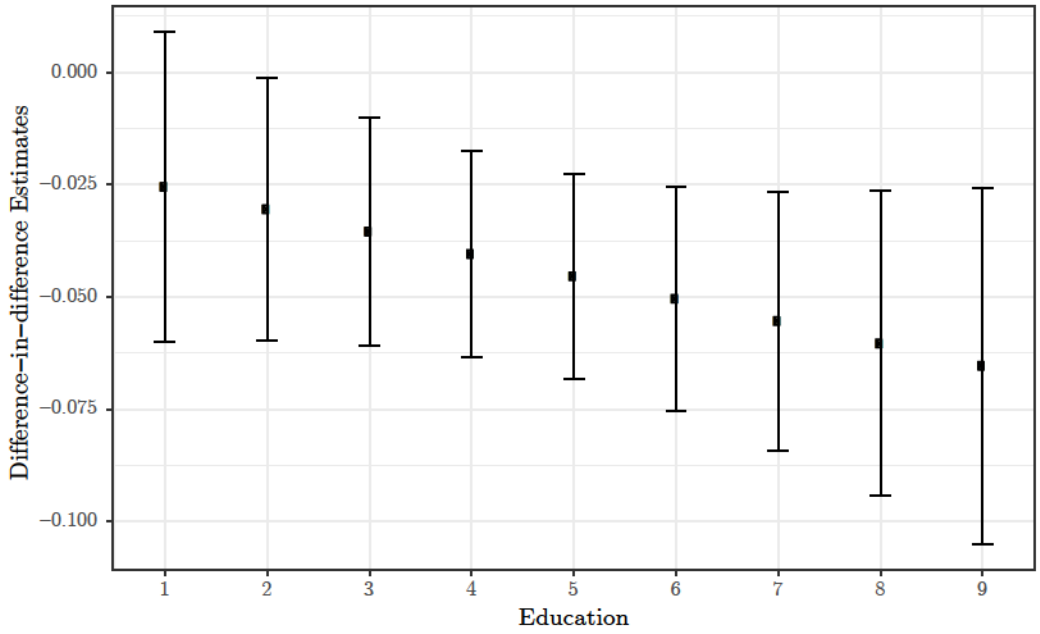


FIGURE 3.C.5: Effect of FDI on protest participation, estimates depending on education level (cut-off distance 10km).

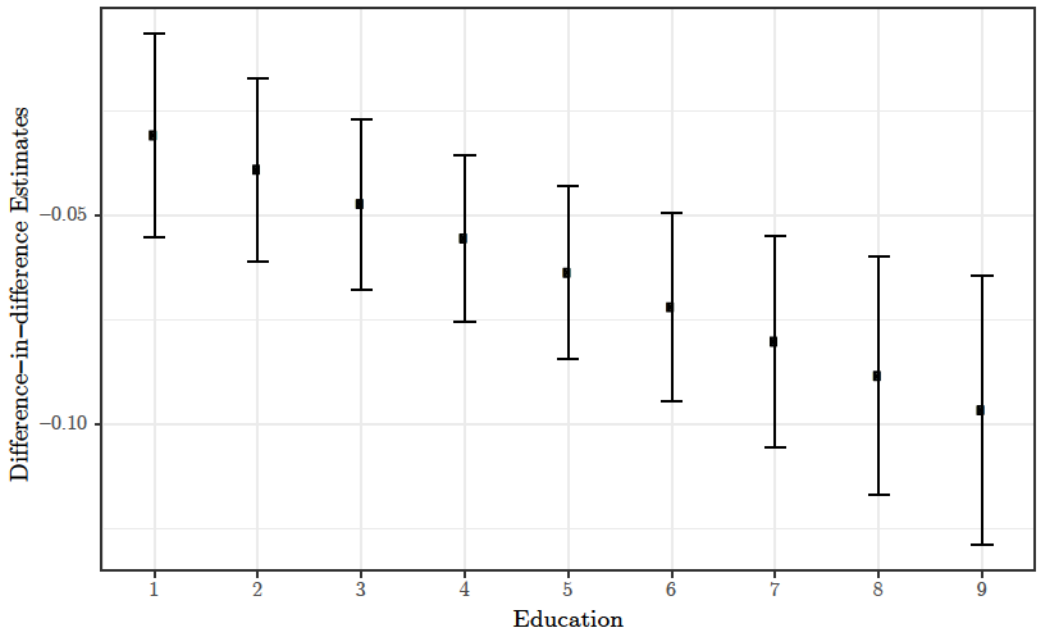


FIGURE 3.C.6: Effect of FDI on protest participation, estimates depending on education level (cut-off distance 50km).

Chapter 4

International Trade and Public Protest

Evidence from Russian Regions

with Tobias Rommel and Stefanie Walter

Abstract

How does economic globalization influence domestic political stability? Building on innovations in modern trade theory, we argue that international trade amplifies political discontent and protest in regions in which trade losers concentrate, but has a pacifying effect in regions dominated by beneficiaries of free trade. We examine this argument focusing on variation in Russian regions. Using negative binomial regression models on data from 2007-2012, we show that regional education levels condition the effect of trade intensity on protest frequency. High exposure to trade leads to more protests in regions with low average education levels, but less protests in regions in which residents are well-educated. Probing the underlying mechanism, we find that the effect of trade on regional economic welfare is conditioned by education levels and that poorly educated Russians face more economic difficulties when they live in regions exposed to trade, whereas the opposite holds for well-educated individuals.

Acknowledgments

We would like to thank Celeste Beasley, Daniel Bischof, Lukas Haffert, Bastian Herre, Tobias Hoffmann, James Hollyer, Nils Redeker, Svend-Erik Skaaning, and Jakob Tolstrup for helpful comments. We are especially grateful to John Ora Reuter and Graeme Robertson for providing their data and useful suggestions.

4.1 Introduction

The question what economic globalization means for a society and whether it enhances or endangers domestic political stability is hotly debated. As globalization has spread worldwide and discontent has grown in tandem, research on this topic has become increasingly important. Existing studies provide ambiguous answers, however. Some scholars argue that economic globalization increases domestic political stability because it raises domestic welfare. Others contend that because it only benefits some, it fosters instability. With regard to one important aspect of domestic political instability – public protest – some studies find that economic openness reduces protest activities (Dodson, 2015). Others find a destabilizing effect. Foreign direct investment (FDI) inflows (Robertson and Teitelbaum, 2011) and investment in mining activities (Christensen, 2019) have been found to instigate labor protests in developing countries. In a similar vein, changes in international food prices increase the likelihood of protests (Hendrix and Haggard, 2015). Yet, a number of studies suggest that economic openness does not have any effect on domestic social unrest at all (Bussmann, Scheuthle and Schneider, 2006; Karakaya, 2016).[1]

We identify two problems that may have contributed to the inconclusiveness of existing research. First, most studies either focus on the macro-level, which prevents them from adequately modeling the distributive consequences of international trade (Dodson, 2015; Karakaya, 2016), or concentrate on micro-level effects with less attention paid to whether and how individual grievances aggregate to group actions (Dalton, Van Sickle and Weldon, 2010). Second, existing work largely builds on established but outdated trade models (Bussmann, Scheuthle and Schneider, 2006; Bussmann and Schneider, 2007), which predict crude lines of distributive conflict. In contrast, newer models of trade suggest that the distributive effects of trade are more diverse than classical models assume (Helpman, Itskhoki and Redding, 2010; Melitz, 2003).

Our paper addresses both shortcomings by focusing on how the sub-national context influences protest behavior. Based on the insights of new new trade theory, we argue that the effect of international trade on political protest varies among individuals and across contexts.

[1] A similar debate about the effect of economic globalization with equally mixed results evolved in the civil war literature: Some studies find no effect (Christensen, 2019; Magee and Massoud, 2011; Sorens and Ruger, 2014), others detect a pacifying-effect (Barbieri and Reuveny, 2005; Blanton and Apodaca, 2007; Flaten and de Soysa, 2012; Hegre, Gissinger and Gleditsch, 2003), and a third group of scholars finds a conflict-enhancing effect (Hartzell, Hoddie and Bauer, 2010; Nieman, 2011).

Although some groups of individuals remain rather sheltered from the effects of trade, for those who are exposed, this new generation of trade models suggests that the effect of trade on individuals varies according to their employment opportunities. Well-educated individuals benefit much more than the less educated, because they are more likely to work in productive firms that benefit most from international trade (Jensen, Quinn and Weymouth, 2017; Walter, 2017). In contrast, poorly educated individuals who are exposed to international trade, face higher labor market risks and develop economic grievances. Such grievances translate into protest behavior in contexts in which many aggrieved people concentrate. International trade thus increases protest activities in environments, in which a poorly educated workforce is highly exposed to international competition. In contrast, trade has a pacifying effect in trade-intensive contexts with a well-educated workforce. Rather than the unconditional pacifying effect of education that factoral models predict or the protest-enhancing unconditional effect of trade exposure that sectoral models predict, our model thus suggests that the effect of international trade on protests depends on both the regional level of trade exposure and the average regional education level.

We test our predictions leveraging regional variation in trade exposure in Russia. As one of the BRIC countries, Russia is an emerging market economy that has opened up significantly in recent decades. It is not just an important case in and of itself, but also representative of many similarly emerging market economies, with limited democratic means for the expression of grievances, but where discontent is frequently expressed through protests. Russia's 83 regions vary significantly with regard to trade exposure, education levels, as well as protest prevalence. This allows us to explore the effect of international trade on protest holding the national political, regulatory, and economic setting constant.

Our results show that although trade exposure by itself has no effect on protest incidents, it significantly impacts protest once the moderating effect of regional education levels is taken into account. International trade increases protests in regions with a poorly educated workforce, but decreases protests in regions with high average levels of education. Exploring the mechanism of our argument, we further explore the heterogeneous effect of trade exposure on regional economic prosperity. Trade increases wage levels, consumption and employment in regions with high average education levels, but has a negative effect on economic welfare in regions characterized by a poorly educated workforce. Our argument also finds empirical

support on the individual level: people living in regions with higher levels of trade exposure report heightened economic grievances when they are poorly educated, whereas exposure to trade reduces grievances among the well-educated.

These results help to reconcile the mixed findings of previous studies. They show that globalization has both negative and positive effects on domestic stability, depending on the context and the prevailing distributive consequences of globalization. Furthermore, they can explain the null findings in the previous literature, as these positive and negative effects cancel each other out when the specific distributive effects are not properly modeled. Overall, our paper demonstrates that globalization has significant societal consequences – both positive and negative – that affect the domestic political stability of countries in a globalized world.

4.2 Theoretical Argument

To understand how international trade affects protest, we begin with a discussion of its distributional effects. Trade creates winners and losers within societies, even if it stimulates aggregate welfare (Hiscox, 2002; Rogowski, 1989). One set of trade models identifies winners and losers based on the sector of employment's exposure to trade or comparative advantage (sectoral models), and a second set based on whether they own a scarce or abundant factor of production (factoral models). Unfortunately, these models fail to explain a number of empirical regularities, such as heterogeneity in trade exposure within sectors of production (Wagner, 2007) or that workers with similar skills receive higher wages when they work in exporting firms (Munch and Skaksen, 2008).

In response to these shortcomings, a new generation of trade models – the socalled 'new new trade theory' – has emerged to explain these heterogeneous effects (Helpman, Itskhoki and Redding, 2010; Melitz, 2003). These models focus on differences among firms and argue that firm productivity is key to understand the effects of international trade. Whereas unproductive firms cannot survive in the face of global competition, productive firms thrive, as they are able to expand and gain market shares both domestically and internationally. Rather than uniformly benefiting or hurting firms in the same industry, trade liberalization rather brings significant gains to some firms and substantial losses to others (Baccini, Pinto and Weymouth, 2017; Osgood et al., 2017).

While new new trade theory takes a firm-level focus, it has significant individual-level implications. Helpman, Itskhoki and Redding (2010) show that international trade predominantly benefits workers in productive, internationally exposed firms that tend to employ workers with better qualifications. Because the international competitiveness of these firms depends on the availability of high-quality workers, international trade increases the demand for well-educated employees. This bolsters their workers' bargaining power resulting in higher wages and lower employment risks (Bernard et al., 2007; Osgood, 2016; Wagner, 2007). Well-educated individuals thus benefit from international trade the more exposed they are to the global economy. Conversely, poorly educated workers who face international competition lose out as they lack the skills required for employment in internationally competitive firms (Walter, 2017). They are more likely to work for companies that cannot compete with more productive, internationally active firms and their jobs pay lower wages. Additionally, the risk of unemployment is higher as their employers are more likely to be driven out of business, and they face a lower likelihood of reemployment because they do not meet the recruitment prerequisites of thriving firms. As a consequence, their labor market risks are much higher than those of workers with equally low education levels working in non-tradable industries.

It is, thus, the combination of trade exposure and education level that influences how globalization affects individual workers. Well-educated workers benefit most when they are exposed to international trade, and much less when they work in sheltered sectors. In contrast, less educated workers are more protected from the negative consequences of globalization when they work in sheltered sectors, and fare worst when they are exposed to international trade. Existing research has shown that these implications can be observed empirically and are associated with differences in perceived labor market risk and policy preferences (Walter, 2017).

Based on the insights of new new trade theory, we argue that the effect of trade on political protest varies among individuals and across contexts. Although some groups of individuals remain rather sheltered from trade, among those that are exposed, this new generation of trade models suggests that the effect of trade on individual welfare varies according to their employment opportunities. Well-educated individuals benefit much more

than the less educated, because they are more likely to work in the productive firms that benefit most from international trade (Jensen, Quinn and Weymouth, 2017; Walter, 2017).

These predictions diverge from classical trade models in three important ways: First, the beneficial effect of trade on well-educated workers and the adverse effect on their poorly educated counterparts only holds for those exposed to trade. Factoral models, in contrast, would predict uniform effects for all workers with similar levels of education. Second, the well-educated benefit from free trade, while the poorly educated lose out, irrespective of the country's relative comparative advantage and factor endowments. Trade does not hurt everyone working in import-competing sectors (Hays, Ehrlich and Peinhardt, 2005) or everyone working in tradable sectors (Frieden and Rogowski, 1996), as the sectoral models would suggest, rather only poorly educated workers exposed to trade. New new trade theory does not distinguish between the effects of exports and imports, because the most productive firms can both successfully compete with imports and export their own goods, whereas the least productive firms do not benefit from exports, but also suffer from imports. Third, new new trade theory applies to both developed and developing countries alike. This suggests that in contrast to the predictions of the factoral model, well-educated workers exposed to the global economy are also the main beneficiaries of free trade in emerging and developing countries, whereas poorly educated workers either do not benefit or even lose out. Although less developed countries have a comparative advantage in less skill-intensive products, these low-skill products tend to be produced by workers who are high-skilled relative to the country's workforce. As a result, just like in developed countries, trade is associated with skill premia in developing countries as well (Acemoglu, 2003; Feenstra and Hanson, 1997).[2] New new trade theory thus helps explain why trade has increased income inequality within developed countries (Anderson and Mendes, 2005; Lang and Mendes Tavares, 2018) and developing countries alike (Goldberg and Pavcnik, 2007; Helpman et al., 2017; Rudra and Tobin, 2017).

Because we are ultimately interested in how these distributional effects impact protest behavior of groups, the next step is to consider how these individual-level consequences accumulate into wider societal effects and shape the context in which individuals act politically. Individuals live in communities that vary in terms of the average education level and trade

[2]Applying new new trade theory to the individual level also helps explain why – contrary to the factoral model's predictions – the well-educated in emerging markets and developing countries view free trade and investment significantly more favorably than the less-educated (Ardanaz, Murillo and Pinto, 2013; Beaulieu, Yatawara and Wang, 2005; Mayda and Rodrik, 2005; Pandya, 2010; Urbatsch, 2013).

exposure of the workforce (Jensen, Quinn and Weymouth, 2017). This context determines how their individual experience compares to that of the average person in their community. *Figure 4.1* illustrates the resulting regional distributional effects, based on whether a region is sheltered from or exposed to trade and whether its workforce is well or poorly educated. Within these regions, the ratio of trade winners, trade losers, and those sheltered from globalization varies considerably.

Regions 1 and 3 are relatively sheltered from globalization. Few people are exposed to global competition and the share of both globalization winners and losers is small. In contrast, regions 2 and 4 are exposed to international trade. Region 2 is a region with a well-educated workforce and high trade exposure. It contains a high share of trade winners relative to a much smaller group of trade losers. Here, average wages are likely to be higher and unemployment lower. This leads to greater prosperity in the region, which can also create positive spillover effects that benefit the small group of trade losers. In contrast, exposure to trade is high in region 4 but the average worker is poorly educated and individuals hurt by international trade abound. Here, international trade depresses wages, increases job loss, and lowers prosperity more generally. This context is the breeding ground for widespread economic grievances.

How do these grievances translate into public protest? Existing research has shown that people are more likely to protest when they are dissatisfied with the economic or political situation (Grasso and Giugni, 2016; Kern, Marien and Hooghe, 2015). Protest allows for the public expression of economic grievances and potentially brings about change to an undesirable situation. Yet, only a fraction of dissatisfied people become active. Protest is costly; people have to mobilize, spend time protesting, and sometimes face punishment for participation (Shadmehr, 2014). To understand if and when grievances turn into public protest, we stress the role of the subnational context.

We argue that protest is more likely when people feel that their grievances are not just their problem and thus their own fault, but when many share the same grievances. Under such circumstances, economic grievances are more likely to be seen as a societal problem that can only be changed through collective political action (Snow, 2013). Protest participation is thus dependent on the pool of potential protesters that are affected by the same societal issue (Van Stekelenburg and Klandermans, 2013). The greater the number of similarly

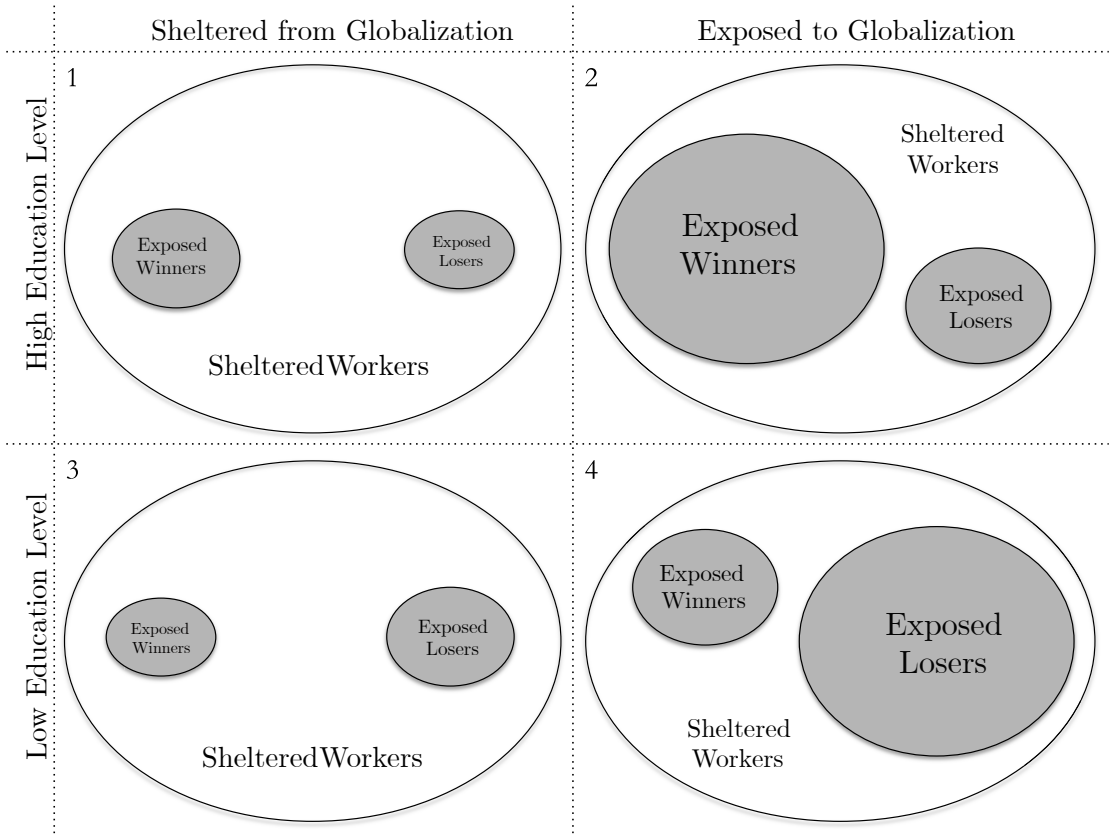


FIGURE 4.1: Share of Workers Affected by Trade in Different Contexts

aggrieved trade losers, the higher the actual turnout and the likelihood that protesting will be effective (Klandermans, 1997; Van Zomeren et al., 2004). Given spatial constraints for sharing grievances and protest mobilization (Sewell, 2001; Traag, Quax and Sloot, 2017), we argue that it is the pool of potential protesters with similar concerns in (relatively) close proximity that matters, turning subnational regions into important contexts to explain protest occurrences. The higher the share of potential protesters in an area, the more likely it is that protesters will turn out. This increases the incentive for each aggrieved individual to participate. Overall, a higher number of people with shared grievances in a region results in a bigger pool of potential protesters and a higher likelihood that a protest event will eventually occur.[3]

As discussed above, there is significant regional variation in the ratio of winners and aggrieved losers of globalization. In regions in which international trade plays only a small role, the fraction of people with globalization-induced grievances and the pool of potential

[3]This does not mean that no protest events happen in regions with low numbers of aggrieved individuals, but the pool of potential protesters is small, which should result in fewer protest events in contexts in which the proportion of aggrieved individuals is low.

protesters is small. In contrast, globalization plays a much more decisive role in regions that are highly exposed to international trade, especially when the regional workforce is on average poorly educated (region 4 in *Figure 4.1*). These regions are home to a large share of trade losers experiencing economic grievances with a common motive for protesting and only few winners. The overall welfare of these regions declines simultaneously with the economic well-being of the majority of its citizens, making compensation unlikely at the regional level. Whereas a small group of educated individuals gains from international trade, the masses lose out. This is a hazardous situation, as comparison to a few who are better off tends to increase economic grievances and instigate protest (Gurr, 1970). In this setting, we expect international trade to increase both the likelihood and the number of protests. Finally, protests should be least frequent in regions with large groups of trade beneficiaries, that is regions with a highly educated workforce and high exposure to international trade (region 2 in *Figure 4.1*). As the group of trade losers is relatively small, the pool of potential fellow protesters is finite. Thus, we expect protests to occur much more rarely in regions with a high regional exposure to trade and a well-educated workforce.

4.3 Research Design

To test this argument empirically, we focus on protest behavior in the Russian Federation and proceed in three steps. The first set of analyses examines the main research question of this paper, focusing on the overall effect of trade on the likelihood of protest. Having established that trade exposure increases protests in contexts with a poorly educated workforce, but decreases protests in regions dominated by highly educated workers, it then moves on to explore the mechanism underpinning our argument. We show that trade increases aggregate economic welfare in regions with high education levels, but decreases it in regions with low average education levels. To corroborate the mechanism at the individual level, we then show that poorly educated individuals have more economic grievances if they live in contexts where they are exposed to international trade, whereas trade exposure reduces such concerns among the well-educated. Taken together, our results support both our main argument about the impact of globalization on regional protest activity and the mechanism underpinning this relationship.

4.3.1 Case Selection

Our analysis focuses on Russia between 2007 and 2012. We choose this single-case design for three main reasons: First, Russia is a large country with 83 regions that vary widely both with respect to the intensity of public protests and exposure to economic globalization, but which are set within the same national political, regulatory, and economic context. *Figure 4.2* shows that the total number of protests in Russia's regions between 2007 and 2012 varied considerably (darker shades imply a higher number of protests). There are regions where protest is generally absent and others where demonstrations are more prevalent; and these protests are not clustered in specific parts of Russia.

We observe a similarly high variation in regional exposure to international trade (see *Figure 4.2*). Again, high exposure to international trade is dispersed across the country.[4] In addition to this cross-regional variation, Russia also exhibits significant variation over time.[5] Since the turn of the century, the country has seen a tremendous rise in international economic openness (Bayulgen, 2010). Yet, this increase in international trade has been unevenly spread across regions.[6]

Thus, cross-regional and over-time variation within the Russian Federation allows us to examine the effect of trade on protest behavior within the same national context. It also allows us to rule out important alternative explanations for protest behavior that vary on the country level, such as variation in repression, alternative means for expressing discontent, legal regulations regarding economic openness, and opportunity structures or country-level grievances (Robertson, 2007).

[4] Due to its status as an exclave, the Kaliningrad region is an outlier in terms of high international trade exposure. The results are robust to excluding Kaliningrad.

[5] Variation over time comes from regional differences in main exports (fuel = 25%, metals = 18%) and imports (machinery = 45%, food = 15%) that are unequally distributed over regions. Our investigation period also includes the financial crisis of 2008. Overall, trade openness dropped from about 30% in 2007 to 25% in 2008; and rose to almost 30% in 2009.

[6] This may be especially pronounced in resource-rich regions. Here, firms rely on exporting oil and gas to increase revenues, which implies that the workforce in these regions is heavily exposed to international trade. Oil companies employ comparatively less-educated workers who are, in accordance with new new trade theory, the losers of international trade. Regions with extractive industries and high trade volumes should, thus, experience a high number of protests. A sizable number of low-skilled workers are confronted with a few well-educated employees who earn disproportionately better due to trade exposure.

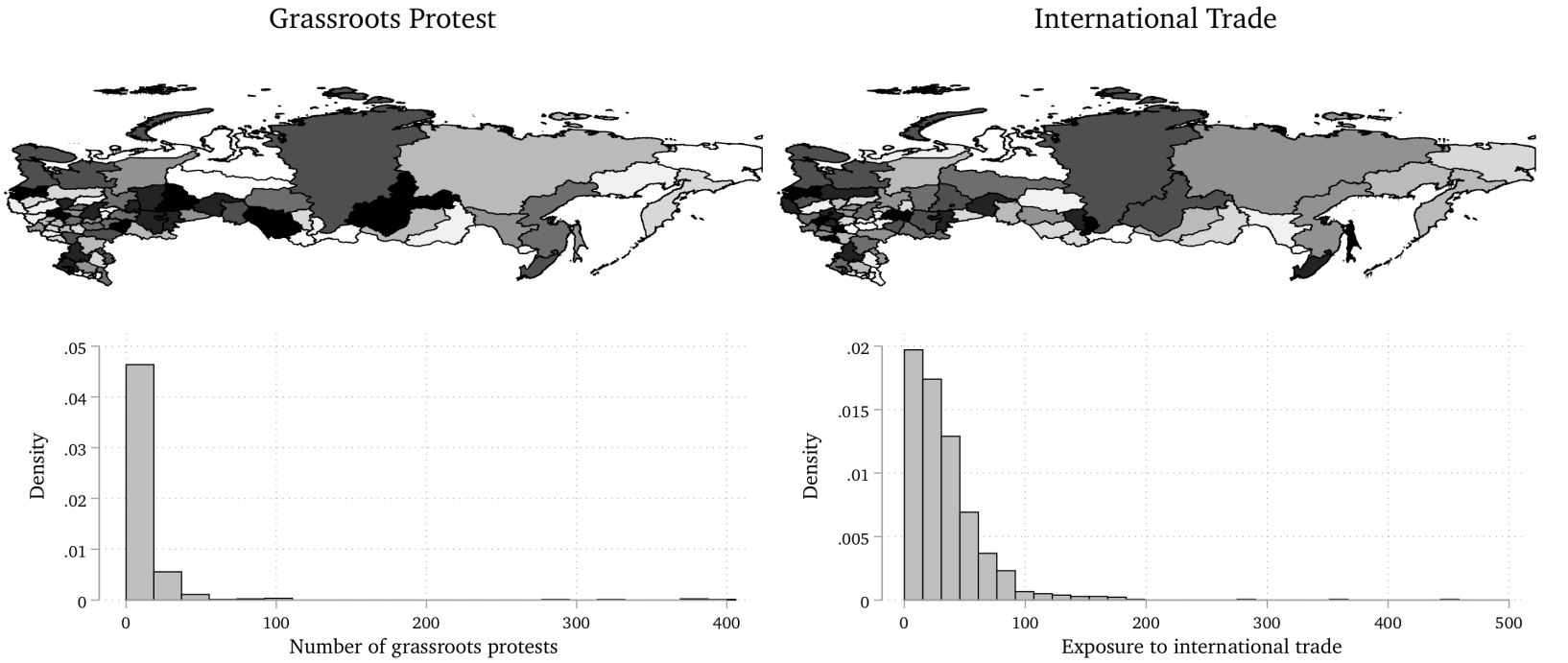


FIGURE 4.2: Regional variation in grassroots protests and exposure to trade. Maps show the number of grassroots protests and exposure to international trade; grouped into deciles. Darker shades imply a higher number of protests or more trade, respectively.

Second, Russia has been a hybrid regime since the breakup of the Soviet Union, hanging in the balance between autocracy and democracy.[7] Although elections are held regularly, electoral competition is plagued by an uneven playing field (Levitsky and Way, 2010). Opposition parties are allowed to run, but media coverage is strongly biased in favor of the ruling party, United Russia. Electoral fraud is widespread and distorts political competition. Freedom of assembly is oftentimes constrained and non-governmental organizations face difficulties in communicating politically. Nevertheless, non-system opposition groups are tolerated and active. Importantly, incentives to protest are higher in such contexts, because other (especially electoral) means of expressing discontent are less effective, while the costs of protesting are not intolerably high.[8] This enables us to observe the effect of globalization on social unrest, estimating an upper bound of this effect. Importantly, Russia is representative of many emerging market economies that have recently become much more economically open, but which are not fully democratic. As such, the results provide insights into the dynamics globalization generates for political stability in these countries.

Third, Russia is an emerging market economy. This makes it an interesting case for our analysis because the implications of the factoral and sectoral models and new new trade theory differ most starkly in the context of emerging and developing countries. Whereas the factoral model suggests that less-skilled individuals benefit most from trade and the sectoral model focuses on those working in export-oriented industries, new new trade theory suggests the more nuanced effects discussed above.[9]

[7] Geddes, Wright and Frantz (2014) code Russia as an autocracy since 1993 when Yeltsin dissolved the Congress of People's Deputies with military power, enforced the establishment of the State Duma, and banned parties from competing in subsequent elections. Freedom House (2015) reports that civil liberties and political rights are severely curtailed. Although, Cheibub, Gandhi and Vreeland (2010) also code autocracy, they indicate that Russia could be considered democratic if government turnover were to occur. Polity IV paints the most optimistic picture emphasizing that there are some democratic principles in place. Its coding alternates between democracy and anocracy (Marshall and Gurr, 2011).

[8] In closed autocracies, where repression is extraordinarily high, few people are likely to protest openly, because engaging in protest almost always results in punishment and, as such, carries tremendous costs (Linz, 2000). In stable democracies on the other hand, the effectiveness of elections in transmitting political demands and the responsiveness of governments to convert demands into policies is higher and may discourage people from the use of protest (Robertson, 2010). Accordingly, incentives to engage in protest are lower in both closed autocracies and in full democracies, compared to hybrid regimes.

[9] Russia is also a suitable case for a practical reason: the available data facilitates not only a close examination of the effect of globalization on protest behavior, but also an exploration of the mechanism underpinning our argument on both the regional and individual level.

4.3.2 Operationalization

The main goal of our analysis is to examine how trade affects the frequency of regional protests. To measure the dependent variable, we focus on grassroots protests. We operationalize grassroots protests using regional data provided by Reuter and Robertson (2015), who rely on weekly reports on the website of the Institute of Collective Action (IKD) to count the number of protest events. In total, the IKD has reported 5,667 events between 2007 and 2012. We use the total number of protests in a given year in each region.[10] These grassroots protests are typically organized by non-system social groups without direct access to Russia's political institutions that have to appeal to shared grievances to incentivize participation. Even if protesters do not share organizational or social ties, they have material interests and preferences in common. Protesters are consequently motivated to join by their grievances and the appearance of a sizable number of individuals with similar concerns.

In further analyses, we use the protest issues coded by Reuter and Robertson (2015) to limit our analyses to protests about wages, labor rights, and policies to change the material welfare distribution. Therefore, these protests focus on demands for the improvement of challenging material situations. Involved workers oftentimes protest wage arrears or low wages, they object to the difficulties of finding a new job when unemployed or they voice their difficulties in earning a living (Robertson, 2010). Solely economically motivated protests make up 37% of all grassroots protests.

To check whether our results are robust to different measures of grassroots protests, we use data from two other sources. First, we use data provided by the Mass Mobilization in Autocracies (MMA) Database (Weidmann and Rød, 2019). This project tracks incidents of political protests in autocratic countries. Second, we draw on data provided by the Integrated Crisis Early Warning System (ICEWS) Program (Boschee et al., 2018). This project monitors political events of various types that are reported in international news outlets. We restrict the data to protest events. Furthermore, we exclude actions that are initiated by the Russian government or forces close to the regime. Both datasets include

[10] Reuter and Robertson (2015) provide their data on a monthly basis. Information is available from January 2007 to March 2012. Because protest events from January to March make up about 25% of all protests in 2007 to 2011, we multiply the number of protests in 2012 by 4 to arrive at the yearly number of protests. The results are robust to using only those years for which complete information is available.

geographical information on the location of each event, allowing us to match protest activities with regions.[11]

Apart from grassroots protest, we also examine the effect of trade on elite-led protest, which tends to be pre-organized by Russia's main opposition party, the Communist Party of the Russian Federation (KPRF). Their non-parliamentary activities include strikes, marches, and demonstrations (Reuter and Robertson, 2015).[12] Elite-led protests depend much more on the mobilization of pre-existing ties not necessarily connected with shared concerns emanating from regional trends in welfare (McAdam, Tarrow and Tilly, 2009; McCarthy and Zald, 1977; Tarrow, 2011). Thus, we expect trade to only affect grassroots protest, but not elite-led protest. Elite-led protests are operationalized as protests organized by the KPRF, published in news reports on their website (Reuter and Robertson, 2015). Between 2007 and 2012, the KPRF initiated a total of 3,898 protests.

Our argument suggests that regional trade exposure in conjunction with regional education levels should be associated with the variance in protest events over time and across regions. We measure regional exposure to international trade with the sum of regional imports and exports of goods, standardized by each region's gross regional product. Data is provided by the ICSID (2015) for about 80 regions, based on reports by Rosstat, the Russian Federations Federal State Statistics Service. Furthermore, we take the natural logarithm. In theoretical terms, a log-transformation corresponds to decreasing marginal returns; this reflects our expectation that the effect of increased globalization exposure on protest should decrease the higher the existing overall exposure. In methodological terms, taking a logarithm is an efficient way to deal with highly skewed data, which is the case for regional trade exposure.[13]

Average regional education levels are operationalized as the share of the labor force with, at minimum, a secondary education degree (Mirkina, 2014). Because the dataset unfortunately does not cover the time period from 2010 onwards, we take the average of the share of people with secondary and tertiary education between 2007 and 2009, the years for which data on grassroots protests is available, and extrapolate the missing years. We

[11] Our preferred measure of grassroots protest is highly correlated with the alternative measures 8r = .95 for economic protest; r = .78 for MMA protest; r = .49 for ICEWS protest.

[12] Information on elite-led protest is available from July 2007 to June 2012. In years with complete information (2008 to 2011), around 50% of all protests take place in the first half of the year. Hence, we multiply protest events in 2007 and 2012 by 2 to account for the missing months.

[13] See Table A1 in the Appendix for descriptive statistics of all variables.

thus assume that the average regional education-level remains constant. As trends over time suggest a rather steady and uniform picture, extrapolating over three years is a reasonable approximation for regional education-levels.[14] We subtract the minimum share of average education levels, such that we can directly interpret the effect of international trade at the minimum of the empirically observable regional education level.

Because our argument suggests that the effect of international trade on protest behavior is conditional on the average education level of the regional workforce, we include a multiplicative interaction term (Brambor, Clark and Golder, 2006). Reflecting the expectation that globalization exposure in regions with a poorly (well) educated workforce should decrease (increase) economic welfare in these regions and increase protest activity, we expect a negative interaction term.

4.3.3 Model Specification

We employ count regression models to analyze the effect of international trade on regional protests. These models are suitable for discrete, non-negative variables, such as the number of protests. Due to the presence of overdispersion, we rely on negative binomial regression instead of Poisson regression models (Hilbe, 2014) and include random effects dispersion parameters on the regional level (Guimaraes, 2008). All explanatory variables are lagged by one year.

In our preferred model specification, we control for other factors that affect political protest (Chenoweth and Ulfelder, 2017; Kern, Marien and Hooghe, 2015; Reuter and Robertson, 2015; Robertson and Teitelbaum, 2011; Solt, 2015). Protest may be more likely in regions with a large population and a higher mobilization capacity, operationalized as share of urban residents. Per capita gross regional product proxies for the overall welfare of each region. The growth rate of the gross regional product and the regional unemployment rate control for economic grievances. Furthermore, we control for foreign direct investment inflows, representing another important component of economic globalization. Newspaper coverage controls for the probability that people are informed about regional developments and the level of transparency granted by local officials. Furthermore, we use the distance of the re-

[14] The results are robust to using averages over a longer time span to extrapolate education levels.

gional capital to Moscow and the density of the road infrastructure. All data for the controls is provided by the ICSID (2015).

In additional models, we further include controls from Reuter and Robertson (2015): regional freedom of the press as a measure for repression and the mandate share of the Communist Party of the Russian Federation in regional parliaments, which proxies for political cooptation of the main opposition. Natural resource rents that emanate from oil and gas extraction are included in the analysis to control for the influence of the oil sector. To control for the influence of ethnic diversity on the occurrence of protest, we include the share of Russian population per region.

4.4 Trade and Protest in Russian Regions

How does international trade affect domestic social unrest? Our argument suggests that the number of protest events should depend on exposure to globalization and the regional education level. Grassroots protest should occur most frequently in poorly educated contexts strongly exposed to globalization, and least often in heavily exposed regions characterized by high average education.

Table 4.1 reports the findings of our analyses.[15] Model 1 shows the unconditional effect of trade exposure on grassroots protests. It suggests that international trade does not have any substantial or statistically significant effect, echoing results from previous studies that do not find any effect of economic openness on domestic social unrest (Bussmann, Scheuthle and Schneider, 2006; Karakaya, 2016). Protests are much more frequent in regions with a poorly educated workforce. Our argument, however, suggests that the effect of globalization exposure on protest is not uniform, but the average level of education among the workforce determines whether trade will predominantly create winners or losers in a certain region. To test this argument, model 2 interacts international trade with the share of people that have completed at least secondary education. This fundamentally changes the picture. Not only does a likelihood-ratio test indicate that the interaction model performs significantly better than the unconditional model, we find - in line with our expectations - that trade increases the number of grassroots protests in contexts with low education levels, but reduces such protests in regions with a largely well-educated workforce.

[15] See *Table 4.B.2* in the Appendix for the full models.

TABLE 4.1: International Trade and Regional Protest

	(1) IKD protests	(2) IKD conditional	(3) IKD full controls	(4) IKD, lagged protests	(5) IKD without oil	(6) IKD econ. protests	(7) MMA protests	(8) ICEWS protests	(9) KPRF protests
Trade Exposure	−0.055	0.514**	0.564**	0.571**	0.503**	0.700**	0.551**	0.619*	−0.078
	(0.11)	(0.24)	(0.24)	(0.27)	(0.30)	(0.28)	(0.28)	(0.35)	(0.18)
Trade * Education		−0.046***	−0.050**	−0.043**	−0.047**	−0.050**	−0.045**	−0.045*	0.004
		(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)
Secondary Education	−0.075***	0.068	0.084	0.074	0.077	0.096	0.160***	0.141*	−0.001
	(0.02)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)	(0.08)	(0.04)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	428	428	417	354	300	428	428	428	428
# of regions	75	75	74	74	53	75	75	75	75
Prob >Chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Log likelihood	−1254.27	−1250.82	−1220.24	−1025.62	−833.07	−914.41	−747.70	−722.22	−1278.93
AIC	2536.54	2531.64	2478.49	2091.24	1696.13	1858.82	1525.40	1474.44	2587.85

Note: Negative binomial regression models with regional-level random effects; standard errors in parentheses; significance levels: *** < 0.01, ** < 0.05, * < 0.1.

- Model 1: unconditional model; DV: IKD protests; including baseline control variables.
- Model 3: conditional model; DV: IKD protests; including baseline and extended control variables.
- Model 4: conditional model; DV: IKD protests; including baseline and extended control variables and lagged protest events.
- Model 5: model 2; DV: IKD protests; excluding all regions with onshore oil and gas.
- Model 6: model 2; DV: IKD economic protests.
- Model 7: model 2; DV: MMA protests.
- Model 8: model 2; DV: ICEWS protests.
- Model 9: model 2; DV: KPRF protests.

The interaction term between trade and education levels is negative and statistically significant in all specifications examining grassroots protests. To facilitate the interpretation of these results, we present a marginal effects plot of the interaction term in *Figure 4.3*, which shows how the effect of trade exposure changes as the share of highly educated individuals increases. Rising education levels reverse the relationship between exposure to trade and grassroots protest. Whereas globalization increases protest incidence in regions with low average education levels, it dampens protest activities in all regions where about half of the population completed secondary education or higher.

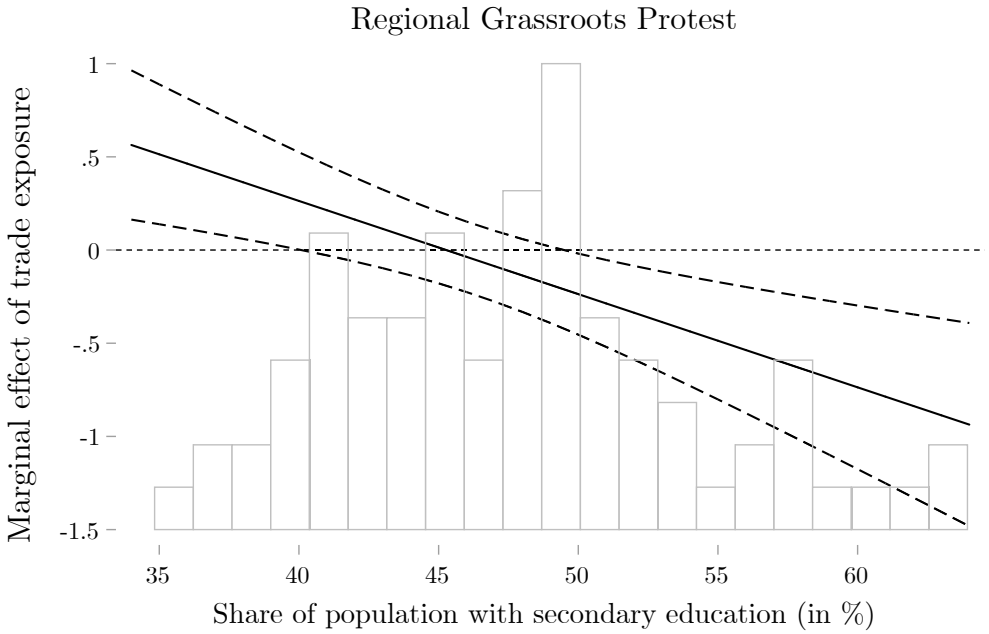


FIGURE 4.3: Marginal effect of trade on regional protest. Marginal effect of regional trade exposure, conditional on regional education levels. Results are based on model 2 in *Table 4.1*; control variables held at their means; 95% confidence intervals.

We further restrict the dependent variable to those grassroots protests that concentrate on economic issues. Once again, trade has no protest-facilitating or -discouraging effect on its own (results not shown). Yet, as soon as the conditional effect of the regional education-level is considered, trade matters in the predicted way (model 6). Protests regarding labor rights, wages, or changes in the distribution of welfare are much more frequent in regions in which a poorly educated workforce is exposed to globalization, whereas such protests rarely occur in regions in which a highly educated workforce is exposed to trade. Furthermore, we arrive at the same conclusion when using MMA (model 7) and ICEWS (model 8) protests as the dependent variable.

In contrast, model 9 shows that trade has no effect on the frequency of elite-led protests, i.e. protests pre-organized by the communist party KPRF.[16] These events are less driven by material motives, but occur more frequently in more populated and richer regions that are farther away from Moscow, provide a better infrastructure in terms of road density, and where news coverage is high. This suggests that in contrast to grassroots protests, which are clearly linked to globalization-related grievances, protests organized by elites who have privileged access to political institutions are more strongly affected by mobilization capacity rather than shared economic grievances.

In sum, these findings provide evidence in favor of our argument that exposure to trade influences domestic protest levels, but that the effect depends on the educational context. International trade feeds domestic conflict when labor is poorly educated, but mitigates such conflicts in contexts in which a well-educated population benefits from trade openness. Our analysis thus suggests that the effects of globalization on protest behavior are more nuanced than previous studies have acknowledged.

4.5 Testing the Mechanism at the Regional and Individual Level

To complement the investigation of the main effect, this section presents analyses that examine the mechanism connecting economic globalization and public protest. Our argument centers on the distributional effects of international openness. We argue that these benefit highly educated individuals but hurt those who are less educated. These effects aggregate on the regional level depending on the overall education level of the region's workforce. We first demonstrate that trade increases aggregate welfare in regions with high education levels, but decreases economic welfare in regions in which poor education prevails. In a second step, we show that the same pattern holds on the individual level: highly educated individuals gain from international openness, while the less educated feel more insecure and threatened.

4.5.1 Trade and Regional Economic Welfare

As a first step to probe the mechanism, we investigate how international trade is related to regional welfare. We use three different dependent variables to operationalize regional welfare

[16] The coefficient of trade is smaller and not statistically significant. There is also no statistically significant difference in the log-likelihoods of the conditional and unconditional model, suggesting that contrary to grassroots protests, the interaction does not add explanatory power.

levels: wage levels, personal consumption expenditures, and employment rates. Regional average wage levels are based on data provided by the ICSID (2015), covering the years 2004 to 2013, and are standardized with the gross regional product and log-transformed. Personal consumption expenditures per capita (in 1,000 USD) and overall regional employment rates (number of employed persons divided by population size) are taken from Mirkina (2014) and are available from 2004 to 2009. If trade benefits a region, wages, consumption, and employment should increase, implying an increase in regional economic welfare, and vice versa.

Given the continuous nature of these dependent variables, we use OLS regression models with panel-corrected standard errors (Beck and Katz, 1995). In light of the short time series and in conjunction with a significantly higher number of units, fixed effects panel estimators are rather inefficient. Besides our main variables, the models control for population size, the share of people living in urban areas, GRP per capita, GRP growth, the rate of unemployment, newspaper coverage, distance to Moscow, and road density. All explanatory variables are lagged by one year.

The results reported in *Table 4.2* support our argument that trade exposure is associated with variation in regional economic welfare, dependent on regional education levels.[17] International trade depresses wage levels (model 1), personal consumption expenditures (model 2), and employment shares (model 3) in regions in which only a small fraction of people hold a secondary education degree. However, the positive and statistically significant interaction terms show an increasingly positive effect of trade on regional welfare as the average education of the regional workforce improves. Hence, regions with a highly educated labor force prosper under trade.

Taken together, these results provide support for one important component of our theoretical argument. In regions that fare poorly under trade, the group of potentially aggrieved individuals is likely to be much larger than in regions that benefit from economic openness, contributing to the heterogeneous effect of globalization on protest behavior.

[17] *Table 4.B.3* in the Appendix presents the full results.

TABLE 4.2: International Trade and Regional Economic Welfare

	Dependent Variable:		
	(1)	(2)	(3)
	Wage Levels	Personal Consumption	Employment Share
Trade Exposure	−0.363***	−0.525***	−0.020***
	(0.03)	(0.07)	(0.00)
Trade * Education	0.024***	0.035***	0.002***
	(0.00)	(0.00)	(0.00)
Secondary Education	−0.049***	−0.084***	−0.005***
	(0.01)	(0.02)	(0.00)
Control Variables	Yes	Yes	Yes
# of Observations	995	690	770
# of Regions	80	80	80
R-squared	0.80	0.83	0.56
Prob >Chi2	0.000	0.000	0.000

Note: Multilevel (ordered) probit regression models, where survey waves (2000-2013) are clustered in individuals; standard errors in parentheses. Constants, cutoffs, and year fixed effects not reported; significance levels: *** < 0.01, ** <0.05, * < 0.1.

4.5.2 Trade and Individual Economic Risk

In a final step, we investigate if variation in exposure to trade also influences individual economic grievances, which motivate protest behavior. Our argument suggests that trade benefits the highly educated but hurts poorly educated individuals. To examine this hypothesis, we use data from the Russian Longitudinal Monitoring Survey administered by the Higher School of Economics. This is a panel survey conducted in 33 Russian regions from 1994-2015. Focusing on the working-age population, we end up with a sample (depending on the dependent variable) of about 22,000 individuals resulting in about 80,000 observations over time.

We concentrate on four dependent variables that measure subjective and objective economic grievances. First, we operationalize realized economic risk by using information on whether a respondent is currently involuntarily unemployed (i.e. unemployed but wants to find a new job). Second, we use a question asking respondents whether they are worried about not being able to afford necessary goods. This item directly measures economic

grievances in the form of threats to respondents' livelihoods. The answers on a 5-point scale range from 'not concerned at all' to 'very concerned'. Third, we measure perceived economic insecurity with a question that asks respondents to evaluate the overall state of the economy. This question also allows us to examine whether trade-related personal risks translate into more pessimistic sociotropic perceptions. Answers range from 'fully satisfied' to 'not at all satisfied'. Fourth, we operationalize perceived social status with the help of survey items that encourage respondents to rank themselves on fictional 9-step ladders. The two questions refer to respondents' position in society with respect to economic and power considerations. For our final measure we take the average of both items and reverse the scale, such that higher values indicate a lower perceived social status.

To measure individual globalization exposure, we match the yearly data on regional trade exposure introduced above to the region in which each respondent lives in.[18] In addition, we measure individual education levels by using respondents' highest educational degrees. This variable has six categories: less than primary, completed primary, lower secondary, higher secondary, secondary vocational, and completed tertiary education. Our argument implies that exposure to trade drives a wedge between educational groups. Individuals with lower levels of education should be more likely to feel economically aggrieved when they are exposed to economic globalization relative to individuals with similarly low education levels who live in less economically open regions. In contrast, living in more economically open regions should decrease economic grievances among highly educated individuals. This implies an interaction term between individual education level and regional globalization exposure. All dependent variables are coded such that we expect a negative interaction term.

We analyze this data with the help of multilevel regression models in which we nest annual survey participation (evel 1) in individuals (level 2). We use a probit specification for individual unemployment as the dependent variable, a linear specification for respondents' ranks in society, and ordered probit specifications for the remaining two variables. We control for gender, age, income in the previous year, relationship status, working in a second job, is self-employment or working in the public sector, as well as regional exposure to foreign direct investment. We also account for the place where respondents currently live: regional

[18] Ideally, we would have liked to match individuals' personal exposure to trade in line with similar individual-level studies (Jensen, Quinn and Weymouth, 2017; Walter, 2017), but the survey data does not contain the necessary information about respondents' industry or occupation.

center, city, small town, or village. Each regression model also includes year fixed effects to account for common shifts in attitudes.

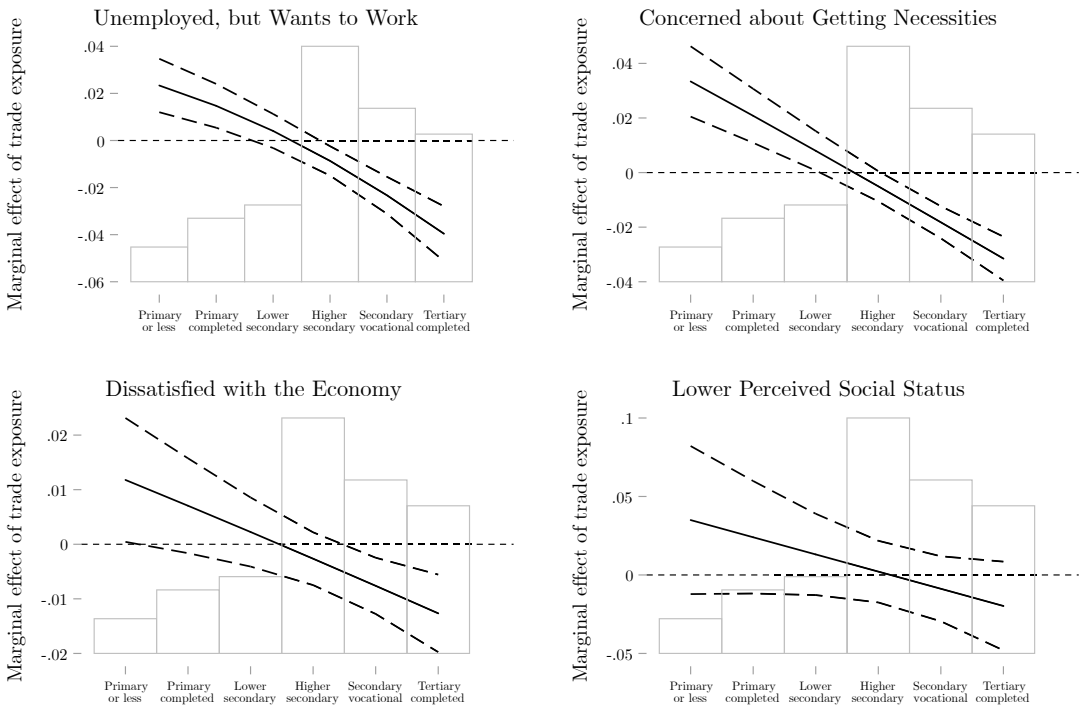


FIGURE 4.4: Marginal effect of trade on regional protest. Marginal effects of individual trade exposure, conditional on individual education levels. Results are based on the models in *Table 4.B.4*; control variables held at their means; 95% confidence intervals.

Figure 4.4 presents the marginal effect of individual exposure to international trade, conditional on individual education levels for all dependent variables.[19] The interaction terms are negative and statistically significant across the board, which means that the grievance-inducing effect of trade on various dimensions of individual economic risk is reversed among highly educated people. The results show that increasing international economic openness only leads to involuntary unemployment, concerns about being able to afford necessary goods, or dissatisfaction with the economy for people with primary or less than primary education. Although the effect of trade is less strong when it comes to respondents' perceived rank on the social ladder, the statistically significant interaction term still points towards heterogeneous effects of trade. Individuals holding at least a higher secondary degree report fewer grievances related to unemployment and less concern about their ability to afford necessary goods. Similarly, highly skilled individuals are much more satisfied with the overall

[19] *Table 4.B.4* in the Appendix presents the full results.

state of the economy when exposed to trade. For these respondents, international trade is highly beneficial.

These individual-level results thus lend strong support to the argument that globalization creates more grievances among poorly educated individuals than their well-educated counterparts. Poorly educated individuals in trade-intensive regions are also more aggrieved than equally poorly educated individuals in regions that are less open to trade. These findings are in line with new new trade theory, but stand in contrast to the factoral and sectoral models, which predict that the effects of globalization exposure and education should be unconditional. Our findings thus corroborate our proposed mechanism that the distributive effects of economic globalization generate grievances, which can result in protests when a critical mass of trade losers is affected.

4.6 Conclusion

How does globalization affect domestic political and social stability? This question has become increasingly relevant as voters have turned against free trade and globalization in Western countries and as developing countries across the globe have embraced economic openness. Our paper provides new evidence in relation to this question, contributing to a literature that has so far provided inconclusive evidence. Building on insights of modern trade theory, our study focuses on the heterogeneous distributional consequences of economic globalization and argues that the effect of trade on regional protest depends on the qualification of the regional workforce. Because poorly educated individuals lose out from trade, they develop economic grievances. When this pool is large and grievances prevail, instances of public protest occur more often. In contexts in which more people benefit from trade than are hurt by it, however, globalization has a pacifying effect. As less people lose out and the overall regional economic situation improves, the likelihood of protest declines.

We demonstrate these dynamics by examining regional variation in the Russian Federation. Russia is an excellent case to test our argument, not just because it allows us to keep key national parameters constant, but also because it represents the growing number of emerging market economies that are not fully democratic but have opened their economies over the last decades. Because democratic means for voicing economic grievances are often

circumscribed in such hybrid regimes, studying public protests allows us to gauge the effect of globalization on political stability in such countries.

Our results demonstrate that globalization can have both stabilizing and destabilizing effects at the same time. Regions with a well-educated workforce see an improvement in regional welfare and experience less protests when they are exposed to international trade, but globalization exposure decreases economic welfare and increases protest activities in regions with a poorly educated workforce. Additional analyses of survey data show support for the individual-level mechanism suggested by our argument: Poorly educated respondents report significantly more grievances than well-educated individuals when they live in regions with high levels of trade.

Overall our study suggests that globalization's effect is not uniform, but varies widely among individuals, communities, and regions. It highlights the usefulness of taking seriously new developments in trade theory and studying the effect of globalization in non-Western emerging markets with less than fully democratic institutions. Our results demonstrate that in such regimes, large-scale economic discontent travels to the political sphere. This may destabilize regimes that are not able or willing to provide citizens with compensatory measures, but may also generate new support groups for non-democratic leaders. More research is needed to examine the circumstances under which globalization-induced grievances and protests cumulate enough to threaten the regime and what this implies for efforts to maintain an open world order.

Supplementary Materials

4.A Descriptives

Table 4.A.1: Descriptive Statistics

	N	Mean	SD	Min	Max
Grassroots (IKD) Protest	428	14,11	41,58	0,00	406,00
Economic Protest	428	5,34	16,21	0,00	173,00
MMA Protest	428	3,67	11,47	0,00	112,00
ICEWS Protest	428	3,36	10,56	0,00	111,00
Elite-led Protest	428	8,83	8,15	0,00	54,00
Regional Trade Exposure (ln)	422	3,19	0,78	0,65	5,10
Secondary Education Share	428	46,91	5,75	34,83	63,93
Regional FDI Exposure (ln)	424	0,66	0,58	0,00	3,55
Population Size	427	1,93	1,75	0,05	11,92
Urban Population Share	428	71,43	10,93	27,10	100,00
GRP per Capita (ln)	428	12,16	0,53	11,10	14,10
GRP Growth	427	0,14	0,20	-0,43	0,83
Unemployment Rate	428	7,07	2,55	0,80	21,70
Newspaper Coverage (ln)	428	6,63	0,73	4,58	8,94
Distance to Moscow (ln)	428	6,97	1,61	0,00	9,38
Road Density (ln)	428	4,50	1,32	-0,22	7,68
Natural Resource Rents	428	7,37	12,00	0,00	55,70
Press Freedom	426	2,05	0,66	1,00	3,00
KPRF Mandate Share	419	10,15	6,07	0,00	33,00
Russian Population Share	428	82,93	16,65	9,20	90,00

4.B Full Models

TABLE 4.B.2: International Trade and Regional Protest - Full Models

	(1) IKD protests	(2) IKD conditional	(3) IKD full controls	(4) IKD, lagged protests	(5) IKD without oil	(6) IKD econ. protests	(7) MMA protests	(8) ICEWS protests	(9) KPRF protests
Trade Exposure	−0.055	0.514**	0.564**	0.571**	0.503**	0.700**	0.551**	0.619*	−0.078
	(0.11)	(0.24)	(0.24)	(0.27)	(0.30)	(0.28)	(0.28)	(0.35)	(0.18)
Trade * Education		−0.046***	−0.050**	−0.043**	−0.047**	−0.050**	−0.045**	−0.045*	0.004
		(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)
Secondary Education	−0.075***	0.068	0.084	0.074	0.077	0.096	0.160***	0.141*	−0.001
	(0.02)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)	(0.08)	(0.04)
FDI Inflows	0.116	0.118	0.087	0.186*	0.053	0.252**	−0.127	−0.362**	0.015
	(0.10)	(0.10)	(0.10)	(0.10)	(0.14)	(0.12)	(0.11)	(0.14)	(0.06)
Population Size	0.430***	0.466***	0.488***	0.514***	0.352***	0.517***	0.329***	0.417***	0.144***
	(0.07)	(0.07)	(0.07)	(0.08)	(0.10)	(0.07)	(0.06)	(0.09)	(0.04)
Urban Population	0.008	0.018*	0.015	0.033***	0.022	0.011	0.032***	0.021	0.008
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
GRP per Capita	−0.605***	−0.622***	−0.642***	−1.429***	−0.726***	−1.094***	1.025***	0.399**	0.285***
	(0.13)	(0.13)	(0.14)	(0.20)	(0.19)	(0.16)	(0.16)	(0.20)	(0.08)
GRP Growth	−0.454**	−0.457**	−0.460**	−0.117	−0.200	−0.593**	0.771***	0.105	0.062
	(0.21)	(0.21)	(0.21)	(0.22)	(0.30)	(0.27)	(0.23)	(0.26)	(0.13)
Unemployment Rate	−0.029	−0.032	−0.035	−0.014	−0.035	−0.068*	0.162***	0.025	0.022
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)	(0.02)
Newspaper Coverage	−0.107	−0.035	−0.051	−0.014	−0.066	0.028	0.295**	0.049	0.187***
	(0.11)	(0.11)	(0.11)	(0.12)	(0.14)	(0.13)	(0.12)	(0.15)	(0.07)
Distance to Moscow	0.219***	0.215***	0.193**	0.157	0.124	0.186**	0.322***	0.106	0.149***
	(0.08)	(0.08)	(0.08)	(0.10)	(0.10)	(0.09)	(0.08)	(0.10)	(0.06)
Road Density	−0.118	−0.124	−0.076	−0.150	−0.104	−0.282**	0.399***	0.214*	0.262***
	(0.10)	(0.10)	(0.11)	(0.13)	(0.16)	(0.11)	(0.10)	(0.12)	(0.06)
Natural Resources			0.011	0.031***					
			(0.01)	(0.01)					
Press Freedom			0.065	0.101					
			(0.09)	(0.11)					
KPRF Mandate Share			−0.026**	−0.029**					
			(0.01)	(0.01)					
Russian Population			0.006	0.005					
			(0.01)	(0.01)					
Lagged Protest				0.002					
				(0.000)					
Constant	7.526***	4.716**	4.537**	12.597***	6.489**	10.185***	−24.106***	−11.256***	−5.793***
	(1.89)	(2.13)	(2.30)	(2.72)	(2.83)	(2.60)	(2.51)	(3.07)	(1.33)
# of observations	428	428	417	354	300	428	428	428	428
# of regions	75	75	74	74	53	75	75	75	75
Prob >Chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Log likelihood	−1254.27	−1250.82	−1220.24	−1025.62	−833.07	−914.41	−747.70	−722.22	−1278.93
AIC	2536.54	2531.64	2478.49	2091.24	1696.13	1858.82	1525.40	1474.44	2587.85

Note: Negative binomial regression models with regional-level random effects; standard errors in parentheses; significance levels: *** < 0.01, ** < 0.05, * < 0.1.

- Model 1: unconditional model; DV: IKD protests; including baseline control variables.
- Model 3: conditional model; DV: IKD protests; including baseline and extended control variables.
- Model 4: conditional model; DV: IKD protests; including baseline and extended control variables and lagged protest events.
- Model 5: model 2; DV: IKD protests; excluding all regions with onshore oil and gas.
- Model 6: model 2; DV: IKD economic protests.
- Model 7: model 2; DV: MMA protests.
- Model 8: model 2; DV: ICEWS protests.
- Model 9: model 2; DV: KPRF protests.

Table 4.B.3: International Trade and Regional Economic Welfare

	Dependent Variable:		
	(1)	(2)	(3)
	Wage Levels	Personal Consumption	Employment Share
Trade Exposure	−0.363***	−0.525***	−0.020***
	(0.03)	(0.07)	(0.00)
Trade * Education	0.024***	0.035***	0.002***
	(0.00)	(0.00)	(0.00)
Secondary Education	−0.049***	−0.084***	−0.005***
	(0.01)	(0.02)	(0.00)
Population Size	−0.502***	0.125***	−0.007***
	(0.01)	(0.04)	(0.00)
Urban Population	−0.007***	−0.003	0.001***
	(0.00)	(0.00)	(0.00)
GRP per capita	0.055**	1.728***	−0.000
	(0.03)	(0.16)	(0.00)
GRP Growth	−0.137	0.037	−0.011*
	(0.11)	(0.46)	(0.01)
Unemployment Rate	0.028***	0.018***	−0.005***
	(0.00)	(0.01)	(0.00)
Newspaper Coverage	0.005	0.100**	0.013***
	(0.02)	(0.05)	(0.00)
Distance to Moscow	−0.134***	0.007	0.003***
	(0.01)	(0.02)	(0.00)
Road Density	−0.126***	0.064	−0.005***
	(0.02)	(0.07)	(0.00)
Constant	0.234	−16.564***	0.411***
	(0.31)	(1.71)	(0.03)
# of Observations	995	690	770
# of Regions	80	80	80
R-squared	0.80	0.83	0.56
Prob >Chi2	0.000	0.000	0.000

Note: Multilevel (ordered) probit regression models, where survey waves (2000-2013) are clustered in individuals; standard errors in parentheses. Constants, cutoffs, and year fixed effects not reported; significance levels: *** < 0.01, ** <0.05, * < 0.1.

TABLE 4.B.4: International Trade and Regional Economic Welfare – Full Models

	Dependent variable:			
	(1)	(2)	(3)	(4)
	Unemployed, but Wants Work	Concerned about Necessities	Dissatisfied with Economy	Lower Perceived Social Rank
Trade Exposure	0.164***	0.130***	0.050***	0.035
	(0.04)	(0.03)	(0.02)	(0.02)
Trade * Education	−0.070***	−0.050***	−0.020***	−0.011*
	(0.01)	(0.01)	(0.01)	(0.01)
Education Level	0.388***	0.195***	0.086***	−0.058**
	(0.04)	(0.02)	(0.02)	(0.02)
FDI Exposure	−0.032***	−0.043***	−0.007	−0.005
	(0.02)	(0.01)	(0.01)	(0.01)
Female	−0.002	0.189***	0.023	0.078***
	(0.02)	(0.02)	(0.01)	(0.01)
Age in Years	0.011***	0.021***	0.024***	0.022***
	(0.00)	(0.00)	(0.00)	(0.00)
Income	−0.125***	−0.009***	−0.040***	−0.023***
	(0.00)	(0.00)	(0.00)	(0.00)
Married	−0.255***	0.031**	−0.155***	−0.137***
	(0.03)	(0.01)	(0.01)	(0.01)
Second Job		−0.119***	−0.142***	−0.047***
		(0.03)	(0.03)	(0.03)
Self-employed		−0.230***	−0.382***	−0.392***
		(0.04)	(0.04)	(0.04)
Public Sector		−0.043***	−0.044***	−0.117***
		(0.01)	(0.01)	(0.01)
Regional Center		baseline category		
City	−0.189***	0.272***	0.081***	0.050***
	(0.03)	(0.02)	(0.02)	(0.02)
Small Town	−0.212***	0.204***	0.158***	0.144***
	(0.06)	(0.04)	(0.03)	(0.03)
Village	0.254***	0.513***	0.317***	0.120***
	(0.03)	(0.02)	(0.02)	(0.02)
# of Observations	51291	79657	79849	78035
# of Individuals	17359	22447	22488	22311
Prob >Chi2	0.000	0.000	0.000	0.000
Log likelihood	-22113.48	-105658.09	-106275.85	-124495.87
AIC	44270.97	211372.17	212607.70	249043.74

Note: Multilevel (ordered) probit regression models, where survey waves (2000-2013) are clustered in individuals; standard errors in parentheses. Constants, cutoffs, and year fixed effects not reported; significance levels: *** < 0.01, ** < 0.05, * < 0.1.

Bibliography

Acemoglu, Daron. 2003. "Patterns of Skill Premia." *Review of Economic Studies* 70(2):199–230.

ACLED. 2019. *ACLED Dashboard*.
URL: *https://www.acleddata.com/dashboard/*

Ahmed, Akhter, Ruth Vargas Hill, Lisa Smith and Doris Wiesmann. 2007. "The World's Most Deprived: Characteristics and Causes of Extreme Poverty and Hunger." *International Food Policy Research 2020 Discussion Paper* 43(October 2007):1–130.

AidData Research and Evaluation Unit. 2017. *Geocoding Methodology (Version 2.0)*. Williamsburg, VA: AidData at William & Mary.
URL: *https://www.aiddata.org/publications/geocoding-methodology-version-2-0*

Akerman, Anders, Elhanan Helpman, Oleg Itskhoki, Marc Andreas Muendler and Stephen Redding. 2013. "Sources of Wage Inequality." *American Economic Review* 103(3):214–219.

Alkon, Meir. 2017. "Local Sociotropism: How Community Variation in Trade Exposure Affects Voter Demands." *SSRN Electronic Journal* (2017):1–20.
URL: *https://dx.doi.org/10.2139/ssrn.3103852*

Almeida, Paul. 2012. "Subnational Opposition to Globalization." *Social Forces* 90(4):1051–1072.

Alvaredo, Facundo, Lucas Chancel, Thomas Piketty, Emmanuel Saez and Gabriel Zucman. 2018. *World Inequality Report 2018*. Paris: World Inequality Lab.

Amiti, Mary and Lisa Cameron. 2007. "Economic Geography and Wages." *The Review of Economics and Statistics* 89(1):15–29.

Anderson, Christopher J. and Silvia M. Mendes. 2005. "Learning to Lose: Election Outcomes, Democratic Experience and Political Protest Potential." *British Journal of Political Science* 36(1):91–111.

Anderson, Edward. 2005. "Openness and Inequality in Developing Countries: A Review of Theory and Recent Evidence." *World Development* 33(7):1045–1063.

Annez, Patricia Clarke and Robert M. Buckley. 2009. Urbanization and Growth: Setting the Context. In *Urbanization and Growth*, ed. Michael Spence, Patricia Clarke Annez and Robert M. Buckley. Washington D.C.: The World Bank, Commission on Growth and Development pp. 1–47.

Ardanaz, Martin, M. Victoria Murillo and Pablo M. Pinto. 2013. "Sensitivity to Issue Framing on Trade Policy Preferences: Evidence from a Survey Experiment." *International Organization* 67(2):411–437.

Autor, David, David Dorn and Gordon Hanson. 2019. "When Work Disappears: Manufacturing Decline and the Falling Marriage Market Value of Young Men." *American Economic Review: Insights* 1(2):161–178.

Auvinen, Juha. 1997. "Political Conflict in Less Developed Countries 1981-1989." *Journal of Peace Research* 34(2):177–195.

Baccini, Leonardo, Pablo M. Pinto and Stephen Weymouth. 2017. "The Distributional Consequences of Preferential Trade Liberalization: Firm-Level Evidence." *International Organization* 71(2):1–23.

Ballard-Rosa, Cameron, Mashail Malik, Stephanie Rickard and Kenneth F. Scheve. 2017. "The Economic Origins of Authoritarian Values: Evidence from Local Trade Shocks in the United Kingdom." *Working Paper* pp. 1–55.
URL: *https://inequality.hks.harvard.edu/files/inequality/files/scheve17.pdf*

Barbieri, Katherine and Rafael Reuveny. 2005. "Economic Globalization and Civil War." *Journal of Politics* 67(4):1228–1247.

Basu, Parantap and Alessandra Guariglia. 2007. "Foreign Direct Investment, Inequality, and Growth." *Journal of Macroeconomics* 29(4):824–839.

Bayulgen, Oksan. 2010. *Foreign Investment and Political Regimes*. Cambridge: Cambridge University Press.

Beaulieu, Eugene, Ravindra A. Yatawara and Wei Guo Wang. 2005. "Who Supports Free Trade in Latin America?" *The World Economy* 28(7):941–958.

Beck, Nathaniel and Jonathan N. Katz. 1995. "What To Do (and Not to Do) with Time-Series Cross-Section Data." *American Political Science Review* 89(3):634–647.

Bellin, Eva. 2010. "The Dog that Didn't Bark: The Political Complacence of the Emerging Middle Class (with Illustrations from the Middle East)." *Political Power and Social Theory* 21(2010):125–141.

BenYishay, Ariel, Bradley Parks, Daniel Runfola, Jeffery Tanner, Rachel Trichler, Silke Heuser, Carrie Dolan, Geeta Batra, Seth Goodman and Anupam Anand. 2017. "A Primer on Geospatial Impact Evaluation Methods, Tools, and Applications." *AidData Working Paper* 44(September 2017):1–21.

BenYishay, Ariel, Robert I. Rotberg, Jessia Wells, Zhonghui Lv, Seth Goodman, Lidia Kovacevic and Dan Runfola. 2017. *Geocoding Afrobarometer Rounds 1-6: Methodology & Data Quality*.
URL: *http://geo.aiddata.org*

Berazneva, Julia and David R. Lee. 2013. "Explaining the African Food Riots of 2007-2008: An Empirical Analysis." *Food Policy* 39:28–39.

Bernard, Andrew, J. Jensen, Bradford, Stephen J. Redding and Peter K. Schott. 2007. "Firms in International Trade." *Journal of Economic Perspectives* 21(3):105–130.

Bernburg, Jón Gunnar. 2015. "Economic Crisis and Popular Protest in Iceland, January 2009: The Role of Perceived Economic Loss and Political Attitudes in Protest Participation and Support." *Mobilization: An International Quarterly* 20(2):231–252.

Blanton, Robert G. and Clair Apodaca. 2007. "Economic Globalization and Violent Civil Conflict: Is Openness a Pathway to Peace?" *Social Science Journal* 44(4):599–619.

Boschee, Elizabeth, Jennifer Lautenschlager, Sean O'Brien, Steve Shellman and James Starz. 2018. *ICEWS Automated Daily Event Data*.
URL: *https://doi.org/10.7910/DVN/QI2T9A*

Brady, Henry E., Sidney Verba and Kay Lehman Schlozman. 1995. "Beyond Ses: A Resource Model of Political Participation." *American Political Science Review* 89(2):271–294.

Brambor, Thomas, William R. Clark and Matt Golder. 2006. "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis* 14(1):63–82.

Branch, Adam and Zachariah Mampilly. 2015. *Africa Uprising*. London: Zed Books.

Bratton, Michael, Robert Mattes and E. Gyimah-Boadi. 2005. *Public Opinion, Democracy, and Market Reform in Africa*. Cambridge: Cambridge University Press.

Breinlich, Holger. 2006. "The Spatial Income Structure in the European Union - What Role for Economic Geography?" *Journal of Economic Geography* 6(5):593–617.

Broz, J. Lawrence, Jeffry A. Frieden and Stephen Weymouth. 2019. "Populism in Place: The Economic Geography of the Globalization Backlash." *International Organization* FirstView:1–37.

Bruno, Michael, Martin Ravallion and Lyn Squire. 1998. Equity and Growth in Developing Countries: Old and New Persepctives on the Policy Issues. In *Income Distribution and High-Quality Growth*, ed. Vito Tanzi and Ke-young Chu. Cambridge, MA: MIT Press pp. 117–146.

Brush, Stephen G. 1996. "Dynamics of Theory Change in the Social Sciences. Relative Deprivation and Collective Violence." *Journal of Conflict Resolution* 40(4):523–545.

Bryceson, D. F., T. C. Mbara and D. Maunder. 2003. "Livelihoods, Daily Mobility and Poverty in Sub-Saharan Africa." *Transport Reviews* 23(2):177–196.

Burgess, Robin and Antohony J. Venables. 2004. "Toward a Microeconomics of Growth." *World Bank Policy Research Working Paper* No. 3257:1–59.

Bürkner, Paul-Christian. 2017. "brms: An R Package for Bayesian Generalized Linear Mixed Models using Stan." *Journal Of Statistical Software* 80(1):1–28.

Bussmann, Margit and Gerald Schneider. 2007. "When Globalization Discontent Turns Violent: Foreign Economic Liberalization and Internal War." *International Studies Quarterly* 51(1):79–97.

Bussmann, Margit, Harald Scheuthle and Gerald Schneider. 2006. Trade Liberalization and Political Instability in Developing Countries. In *Programming for Peace: Computer-Aided Methods for International Conflict Resolution and Prevention*, ed. Robert Trappl. Dordrecht: Springer pp. 49–70.

Busso, Matias, Jesse Gregory and Patrick Kline. 2013. "Assessing the Incidence and Efficiency of a Prominent Place based Policy." *American Economic Review* 103(2):897–947.

Cederman, Lars-Erik, Kristian Skrede Gleditsch and Halvard Buhaug. 2013. *Inequality, Grievances, and Civil War*. Cambridge: Cambridge University Press.

Cederman, Lars-Erik, Nils B. Weidmann and Nils-Christian Bormann. 2015. "Triangulating Horizontal Inequality: Toward Improved Conflict Analysis." *Journal of Peace Research* 52(6):806–821.

Cheibub, Jose A., Jennifer Gandhi and James R. Vreeland. 2010. "Democracy and Dictatorship Revisited." *Public Choice* 143(1-2):67–101.

Chen, Xi and William D. Nordhaus. 2011. "Using Luminosity Data as a Proxy for Economic Statistics." *Proceedings of the National Academy of Sciences* 108(21):8589–8594.

Chen, Zhihong, Ying Ge and Huiwen Lai. 2011. "Foreign Direct Investment and Wage Inequality: Evidence from China." *World Development* 39(8):1322–1332.

Chenery, Hollis B. 1960. "Patterns of Industrial Growth." *American Economic Review* 50(4):624–654.

Chenoweth, Erica and Jay Ulfelder. 2017. "Can Structural Conditions Explain the Onset of Nonviolent Uprisings?" *Journal of Conflict Resolution* 61(2):298–324.

Chiquiar, Daniel. 2005. "Why Mexico's Regional Income Convergence Broke Down." *Journal of Development Economics* 77(1):257–275.

Choi, Changkyu. 2006. "Does Foreign Direct Investment Affect Domestic Income Inequality?" *Applied Economics Letters* 13(12):811–814.

Christensen, Darin. 2019. "Concession Stands: How Mining Investments Incite Protest in Africa." *International Organization* 73(1):65–101.

Clark, Andrew E. and Claudia Senik. 2010. "Who Compares to Whom? The Anatomy of Income Comparison in Europe." *The Economic Journal* 120(544):573–594.

Colantone, Italo and Piero Stanig. 2018*a*. "Global Competition and Brexit." *American Political Science Review* 112(2):201–218.

Colantone, Italo and Piero Stanig. 2018*b*. "The Trade Origins of Economic Nationalism: Import Competition and Voting Behavior in Western Europe." *American Journal of Political Science* 62(4):936–953.

Cutler, D. M. and L. F. Katz. 1992. "Rising Inequality? Changes in the Distribution of Income and Consumption in the 1980's." *American Economic Review* 82(2):546–551.

Cypher, James M. and James L. Dietz. 2009. *The Process of Economic Development*. London: Routledge.

Dalton, Russell, Alix Van Sickle and Steven Weldon. 2010. "The Individual-Institutional Nexus of Protest Behaviour." *British Journal of Political Science* 40(1):51–73.

Davies, James C. 1962. "Toward a Theory of Revolution." *American Sociological Review* 27(1):5–19.

Démurger, Sylvie, Jeffrey D. Sachs, Gene Chang, Wing Thye Woo, Shuming Bao and Andrew Mellinger. 2002. "Geography, Economic Policy, and Regional Development in China." *Asian Economic Papers* 1(1):146–197.

Diao, Xinshen, Kenneth Harttgen and Margaret McMillan. 2017. "The Changing Structure of Africa's Economies." *NBER Working Paper Series* 23021:1–52.

Dippel, Christian, Robert Gold, Stephan Heblich, Christian Dippel and Robert Gold. 2016. "Globalization and Its (Dis-)Content: Trade Shocks and Voting Behavior Globalization and Voting Behavior." *California Center for Population Research On-Line Working Paper Series* 019:1–39.

Dodson, Kyle. 2015. "Globalization and Protest Expansion." *Social Problems* 62(1):15–39.

Doll, Christopher N. H., Jan-Peter Muller and Jeremy G. Morley. 2006. "Mapping Regional Economic Activity from Night-Time Light Satellite Imagery." *Ecological Economics* 57(1):75–92.

Dollar, David and Aart Kraay. 2002. "Growth is Good for the Poor." *Journal of Economic Growth* 7(3):195–225.

Dollar, David, Tatjana Kleineberg and Aart Kraay. 2016. "Growth Still is Good for the Poor." *European Economic Review* 81:68–85.

Easterlin, R. A., L. A. McVey, M. Switek, O. Sawangfa and J. S. Zweig. 2010. "The Happiness-Income Paradox Revisited." *Proceedings of the National Academy of Sciences* 107(52):22463–22468.

Easterlin, Richard A. 1995. "Will Raising the Income of All Increase the Happiness of All?" *Journal of Economic Behaviour and Organization* 27(27):35–47.

Easterlin, Richard A. 2005. "Feeding the Illusion of Growth and Happiness: A Reply to Hagerty and Veenhoven." *Social Indicators Research* 74(3):429–443.

Ebener, Steeve, Christopher Murray, Ajay Tandon and Christopher C. Elvidge. 2005. "From Wealth to Health: Modelling the Distribution of Income Per Capita at the Sub-National Level Using Night-Time Light Imagery." *International Journal of Health Geographics* 4(5):1–17.

Elbadawi, Ibrahim and Havard Hegre. 2008. "Globalization, Economic Shocks, and Internal Armed Conflict." *Defence and Peace Economics* 19(1):37–60.

Elvidge, Christopher D., Kimberly E. Baugh, Vinita Ruth Hobson, Eric A. Kihn, Herbert W. Kroehl, Ethan R. Davis and David Cocero. 1997. "Satellite Inventory of Human Settlements Using Nocturnal Radiation Emissions: A Contribution for the Global Toolchest." *Global Change Biology* 3(5):387–395.

Enos, Ryan D. 2016. "What the Demolition of Public Housing Teaches Us about the Impact of Racial Threat on Political Behavior." *American Journal of Political Science* 60(1):123–142.

Escobal, Javier and Maximo Torero. 2015. Adverse Geography and Differences in Welfare in Peru. In *Spatial Inequality and Development*, ed. Ravi Kanbur and Anthony J. Venables. Oxford: Oxford University Press pp. 77–122.

Essoungou, Andre-Michel. 2011. *Africa Renewal. Africa's Least Developed: Lands of Opportunity.* **URL:** *https://www.un.org/africarenewal/magazine/august-2011/africas-least-developed-lands-opportunity*

Fally, Thibault, Rodrigo Paillacar and Cristina Terra. 2010. "Economic Geography and Wages in Brazil: Evidence from Micro-Data." *Journal of Development Economics* 91(1):155–168.

Feenstra, Robert C. and Gordon H. Hanson. 1997. "Foreign Direct Investment and Relative Wages: Evidence from Mexico's Maquiladoras." *Journal of International Economics* 42(3-4):371–393.

Feigenbaum, James J. and Andrew B. Hall. 2015. "How Legislators Respond to Localized Economic Shocks: Evidence from Chinese Import Competition." *The Journal of Politics* 77(4):1012–1030.

Ferrer-i-Carbonell, Ada. 2005. "Income and Well-Being: An Empirical Analysis of the Comparison Income Effect." *Journal of Public Economics* 89(5-6):997–1019.

Festinger, Leon. 1954. "A Theory of Social Comparison Processes." *Human Relations* 7(2):117–140.

Flaten, Ranveig Drolsum and Indra de Soysa. 2012. "Globalization and Political Violence, 1970–2008." *International Interactions* 38(5):622–646.

Fosu, Augustin. 2010. "Growth, Inequality, and Poverty Reduction in Developing Countries: Recent Global Evidence." *OECD Development Centre Background Paper* March 2010:1–57.

Fosu, Augustin Kwasi and Eric Kehinde Ogunleye. 2015. African Growth Strategies: The Past, Present, and Future. In *The Oxford Handbook of Africa and Economics: Volume 2: Policies and Practices*, ed. Celestine Monga and Jusing Yifu Lin. Oxford: Oxford University Press pp. 23–28.

Freedom House. 2013. *Democratic Trends in Sub-Saharan Africa.* **URL:** *https://freedomhouse.org/resource/democratic-trends-sub-saharan-africa#.U8gBavldWE4*

Freedom House. 2015. *Freedom in the World. Country Report Russia.* **URL:** *https://freedomhouse.org/report/freedom-world/2015/russia.*

Frieden, Jeffrey A. and Ronald Rogowski. 1996. The Impact of the International Economy on National Policies: An Analytical Overview. In *Internationalization and Domestic Politics*, ed. Robert Keohane and Helen Milner. Cabmbrige: Cambridge University Press pp. 25–47.

Gallup, John Luke, Jeffrey D. Sachs and Andrew D. Mellinger. 1999. "Geography and Economic Development." *International Regional Science Review* 22(2):179–232.

Geddes, Barbara, Joseph Wright and Erica Frantz. 2014. "Autocratic Breakdown and Regime Transitions: A New Data Set." *Perspectives on Politics* 12(2):313–331.

Gelman, Andrew and Donald B. Rubin. 1992. "Inference from Iterative Simulation Using Multiple Sequences." *Statistical Science* 7(4):457–511.

Goldberg, Pinelopi Koujianou and Nina Pavcnik. 2005. "Trade, Wages, and the Political Economy of Trade Protection: Evidence from the Colombian Frade Reforms." *Journal of International Economics* 66(1):75–105.

Goldberg, Pinelopi Koujianou and Nina Pavcnik. 2007. "Distributional Effects of Globalization in Developing Countries." *Journal of Economic Literature* 45(1):39–82.

Gollin, Douglas, David D. Lagakos and Michael E. Waugh. 2014. "The Agricultural Productivity Gap." *Quarterly Journal of Economics* 129(2):939–993.

Görg, Holger and Adnan Seric. 2013. "With a Little Help from my Friends: Supplying to Multinationals, Buying from Multinationals, and Domestic Firm Performance." *Kiel Institute for the World Economy Working Paper* August 2013:1–23.

Graham, Carol. 2005. "Insights on Development from the Economics of Happiness." *World Bank Research Observer* 20(2):201–231.

Graham, Carol and Stefano Pettinato. 2002. "Frustrated Achievers: Winners, Losers and Subjective Well-Being in New Market Economies." *Journal of Development Studies* 38(4):100–140.

Granovetter, Mark S. 1978. "Threshold Models of Collective Behavior." *American Journal of Sociology* 83(6):1420–1443.

Grasso, Maria T. and Marco G. Giugni. 2016. "Protest Participation and Economic Crisis: The Conditioning Role of Political Opportunities." *European Journal of Political Research* 55(4):663–680.

Guimaraes, Paulo. 2008. "The Fixed Effects Negative Binomial Model Revisited." *Economics Letters* 99(1):63–66.

Gurney, Joan Neff and Kathleen J. Tierney. 1982. "Relative Deprivation and Social Movements: A Critical Look at Twenty Years of Theory and Research." *The Sociological Quarterly* 23(1):33–47.

Gurr, Ted. 1970. *Why Men Rebel*. NJ, Princeton: Princeton University Press.

Ha, Eunyoung. 2012. "Globalization, Government Ideology, and Income Inequality in Developing Countries." *The Journal of Politics* 74(2):541–557.

Hainmueller, Jens and Michael J. Hiscox. 2006. "Learning to Love Globalization: Education and Individual Attitudes Toward International Trade." *International Organization* 60(2):469–498.

Hansen, Henrik and John Rand. 2006. "On the Causal Links between FDI and Growth in Developing Countries." *The World Economy* 29(1):21–41.

Hanson, Gordon H. 2005. "Market Potential, Increasing Returns and Geographic Concentration." *Journal of International Economics* 67(1):1–24.

Hanson, Gordon H. and Ann Harrison. 1999. "Trade Liberalization and Wage Inequality in Mexico." *Industrial and Labor Relations Review* 52(2):271–288.

Hartzell, Caroline A., Matthew Hoddie and Molly Bauer. 2010. "International Organization Foundation Economic Liberalization via IMF Structural Adjustment: Sowing the Seeds of Civil War?" *International Organization* 64(2):339–356.

Hays, Jude C., Sean D. Ehrlich and Clint Peinhardt. 2005. "Government Spending and Public Support for Trade in the OECD: An Empirical Test of the Embedded Liberalism Thesis." *International Organization* 59(2):473–494.

Head, Keith and Thierry Mayer. 2006. "Regional Wage and Employment Responses to Market Potential in the EU." *Regional Science and Urban Economics* 36(5):573–594.

Healy, Andrew and Gabriel S. Lenz. 2017. "Presidential Voting and the Local Economy: Evidence from Two Population-Based Data Sets." *Journal of Politics* 79(4):1419–1432.

Healy, Andrew, Mikael Persson and Erik Snowberg. 2017. "Digging into the Pocketbook: Evidence on Economic Voting from Income Registry Data Matched to a Voter Survey." *American Political Science Review* 111(4):771–785.

Hegre, Havard, Ranveig Gissinger and Nils Petter Gleditsch. 2003. Globalization and Internal Conflict. In *Globalization and Armed Conflict*, ed. Gerald Schneider, Katherine Barbieri and Nils Petter Gleditsch. Lanham: Rowman & Littlefied Publishers pp. 251–278.

Helpman, Elhanan. 2014. "Foreign Trade and Investment: Firm-Level Perspectives." *Economica* 81(321):1–14.

Helpman, Elhanan, Marc J. Melitz and Stephen R. Yeaple. 2004. "Export versus FDI with Heterogeneous Firms." *American Economic Review* 94(1):300–316.

Helpman, Elhanan, Oleg Itskhoki, Marc Andreas Muendler and Stephen J. Redding. 2017. "Trade and Inequality: From Theory to Estimation." *Review of Economic Studies* 84(1):357–405.

Helpman, Elhanan, Oleg Itskhoki and Stephen Redding. 2010. "Inequality and Unemployment in a Global Economy." *Econometrica* 78(4):1239–1283.

Henderson, J. Vernon, Adam Storeygard and David N. Weil. 2011. "A Bright Idea for Mesuring Economic Growth." *American Economic Review* 101(3):194–199.

Hendrix, Cullen S. and Stephan Haggard. 2015. "Global Food Prices, Regime Type, and Urban Unrest in the Developing World." *Journal of Peace Research* 52(2):143–157.

Herrendorf, Berthold, Richard Rogerson and Ákos Valentinyi. 2014. Growth and Structural Transformation. In *Handbook of Economic Growth*, ed. Philippe Aghion and Steven Durlauf. Vol. 2 New York, N.Y.: Elsevier B.V. pp. 855–941.

Herzer, Dierk, Philipp Hühne and Peter Nunnenkamp. 2014. "FDI and Income Inequality - Evidence from Latin American Economies." *Review of Development Economics* 18(4):778–793.

Hijzen, Alexander, Pedro S. Martins, Thorsten Schank and Richard Upward. 2013. "Foreign-Owned Firms around the World: A Comparative Analysis of Wages and Employment at the Micro-level." *European Economic Review* 60:170–188.

Hilbe, Joseph M. 2014. *Modeling Count Data*. Cambridge: Cambridge University Press.

Hiscox, Michael J. 2002. *International Trade and Political Conflict: Commerce, Coalitions, and Mobility*. Princeton: Princeton University Press.

Hoffman, Matthew D. and Andrew Gelman. 2014. "The No-U-Turn Sampler: Adaptively Setting Path Lengths in Hamiltonian Monte Carlo." *Journal of Machine Learning Research* 15:1593–1623.

Hopkins, Daniel J. and Gary King. 2010. "Improving anchoring vignettes designing surveys to correct interpersonal incomparability." *Public Opinion Quarterly* 74(2):1–22.

ICSID. 2015. "ICSID Database on Economic and Political Indicators for the Russian Regions.".
URL: *https://iims.hse.ru/en/csid/databases*

Isaksson, Ann Sofie and Andreas Kotsadam. 2018*a*. "Chinese Aid and Local Corruption." *Journal of Public Economics* 159(February 2017):146–159.

Isaksson, Ann Sofie and Andreas Kotsadam. 2018*b*. "Racing to the Bottom? Chinese Development Projects and Trade Union Involvement in Africa." *World Development* 106:284–298.

Isserman, Andrew M., Edward Feser and Drake E. Warren. 2009. "Why Some Rural Places Prosper and Others Do Not." *International Regional Science Review* 32(3):300–342.

Jensen, J. Bradford, Dennis P. Quinn and Stephen Weymouth. 2017. "Winners and Losers in International Trade: The Effects on US Presidential Voting." *International Organization* 71(3):423–457.

Jerven, Morten. 2013. *Poor Numbers: How We Are Misled by African Development Statistics and What to Do about It*. Ithaca and London: Cornell University Press.

Johnston, Ron J. and Charles J. Pattie. 2001. "'It's the Economy, Stupid' - But Which Economy? Geographical Scales, Retrospective Economic Evaluations and Voting at the 1997 British General Election." *Regional Studies* 35(4):309–319.

Jones, Patricia. 2001. "Are Educated Workers Really More Productive?" *Journal of Development Economics* 64(1):57–79.

Justino, Patricia and Bruno Martorano. 2016. "Inequality, Distributive Beliefs and Protests: A Recent Story from Latin America." *IDS Working Paper* 467:1–29.

Kanbur, Ravi and Anthony J. Venables. 2005. Spatial Inequality and Development. In *Spatial Inequality and Development*, ed. Ravi Kanbur and Anothony J. Venables. Oxford: Oxford University Press pp. 1–12.

Karakaya, Suveyda. 2016. "Globalization and Contentious Politics: A Comparative Analysis of Nonviolent and Violent Campaigns." *Conflict Management and Peace Science* 35(4):315–335.

Kern, Anna, Sofie Marien and Marc Hooghe. 2015. "Economic Crisis and Levels of Political Participation in Europe (2002–2010): The Role of Resources and Grievances." *West European Politics* 38(3):465–490.

Kim, Sukkoo. 2008. "Spatial Inequality and Economic Development: Theories, Facts, and Policies." *World Bank Commission on Growth and Development Working Paper* pp. 1–52.

Klandermans, Bert. 1997. *The Social Psychology of Protest*. Oxford: Blackwell Publishing.

Kline, Patrick and Enrico Moretti. 2014. "People, Places, and Public Policy: Some Simple Welfare Economics of Local Economic Development Programs." *Annual Review of Economics* 6(1):629–662.

Knight, John. 2012. "Economic Growth and the Human Lot." *Proceedings of the National Academy of Sciences* 109(25):9670–9671.

Knutsen, Carl Henrik, Andreas Kotsadam, Eivind Hammersmark Olsen and Tore Wig. 2017. "Mining and Local Corruption in Africa." *American Journal of Political Science* 61(2):320–334.

Korpi, Martin. 2008. "Does Size of Local Labour Markets Affect Wage Inequality? A Rank-Size Rule of Income Distribution." *Journal of Economic Geography* 8(2):211–237.

Kosack, Stephen and Jennifer Tobin. 2006. "Funding Self-Sustaining Development: The Role of Aid, FDI and Government in Economic Success." *International Organization* 60(1):205–243.

Kotsadam, Andreas and Anja Tolonen. 2016. "African Mining, Gender, and Local Employment." *World Development* 83:325–339.

Kriesi, Hanspeter. 2012. "The Political Consequences of the Financial and Economic Crisis in Europe: Electoral Punishment and Popular Protest." *Swiss Political Science Review* 18(4):518–522.

Kriesi, Hanspeter, Ruud Koopmans, Jan Willem Duyvendak and Marco G. Giugni. 1992. "New Social Movements and Political Opportunities in Western Europe." *European Journal of Political Research* 22(2):219–244.

Krueger, Alan B. and Mikael Lindahl. 2001. "Education for Growth: Why and for Whom?" *Journal of Economic Literature* 39(4):1101–1136.

Krugman, Paul. 1991. "Increasing Returns and Economic Geography." *Journal of Political Economy* 99(3):483–499.

Krugman, Paul. 1996. "'Urban concentration': The Role of Increasing Returns and Transport Costs." *International Regional Science Review* 19(1-2):5–30.

Kuhn, Patrick M. and Nils B. Weidmann. 2015. "Unequal We Fight: Between- and Within-Group Inequality and Ethnic Civil War." *Political Science Research and Methods* 3(3):543–568.

Kung, Kevin S., Kael Greco, Stanislav Sobolevsky and Carlo Ratti. 2014. "Exploring Universal Patterns in Human Home-Work Commuting from Mobile Phone Data." *PLoS ONE* 9(6):1–15.

Kurer, Thomas. 2018. *The Declining Middle: Mass Politics in Times of Automation*. Dissertation: University of Zurich.

Kurer, Thomas, Silja Häusermann, Bruno Wüest and Matthias Enggist. 2018. "Economic Grievances and Political Protest." *European Journal of Political Research* First View:1–27.

Kuznets, Simon. 1973. "Modern Economic Growth: Findings and Reflections." *American Economic Review* 63(3):247–258.

Lang, Valentin and Marina Mendes Tavares. 2018. "The Distribution of Gains from Globalization." *IMF Working Papers* 18(54):1–65.

Langer, Armin and Satoru Mikami. 2013. The Relationship between Objective and Subjective Horizontal Inequalitites: Evidence from Five African Countries. In *Preventing Violent Conflict in Africa. Inequalitites, Perceptions and Institutions*, ed. Yoichi Mine, Frances Stewart, Sakiko Fukuda-Parr and Thandika Mkandawire. Basingstoke: Palgrave Macmillan UK pp. 208–250.

Langer, Arnim and Kristien Smedts. 2013. "Seeing is not Believing: Perceptions of Horizontal Inequalities in Africa." *CRPD Working Paper* 16(August 2013):1–29.

Larsen, Marin Vinaes, Frederik Hjorth, Peter Thisted Dinesen and Kim Mannemar Sonderskov. 2019. "When Do Citizens Respond Politically to the Local Economy? Evidence from Registry Data on Local Housing Markets." *American Political Science Review* 113(2):499–516.

Lee, Donghoon and Kenneth I. Wolpin. 2006. "Intersectoral Labor Mobility and the Growth of the Service Sector." *Econometrica* 74(1):1–46.

Lehoucq, Fabrice and David L. Wall. 2004. "Explaining Voter Turnout Rates in New Democracies: Guatemala." *Electoral Studies* 23(3):485–500.

Lessmann, Christian. 2013. "Foreign Direct Investment and Regional Inequality: A Panel Data Analysis." *China Economic Review* 24(1):129–149.

Lessmann, Christian and André Seidel. 2017. "Regional Inequality, Convergence, and its Determinants – A View From Outer Space." *European Economic Review* 92:110–132.

Levitsky, Steven and Lucan Way. 2010. *Competitive Authoritarianism. Hybrid Regimes After the Cold War.* New York: Cambridge University Press.

Li, Quan and Rafael Reuveny. 2003. "Economic Openness, Democracy, and Income Inequality. An Empirical Analysis." *Comparative Political Studies* 36(5):575–601.

Lichbach, Mark Irving. 1989. "An Evaluation of 'Does Economic Inequality Breed Conflict?' Studies." *World Politics* 41(4):431–470.

Lin, Songhua. 2003. "International Trade, Location and Wage Inequality in China." *UNU-WIDER Discussion Paper* 61:1–34.

Linz, Juan. 2000. *Totalitarian and Authoritarian Regimes.* Boulder: Lynne Rienner Publishers.

Lipsey, Robert E. and Fredrik Sjöholm. 2004. "Foreign Direct Investment, Education and Wages in Indonesian Manufacturing." *Journal of Development Economics* 73(1):415–422.

Lujala, P., H. Buhaug and S. Gates. 2009. "Geography, Rebel Capability, and the Duration of Civil Conflict." *Journal of Conflict Resolution* 53(4):544–569.

Lujala, Päivi, Jan Ketil Rod and Nadja Thieme. 2007. "Fighting over Oil: Introducing a New Dataset." *Conflict Management and Peace Science* 24(3):239–256.

Magee, Christopher S. P. and Tansa George Massoud. 2011. "Openness and Internal Conflict." *Journal of Peace Research* 48(1):59–72.

Mansfield, Edward D. and Diana C. Mutz. 2009. "Support for Free Trade: Self-Interest, Sociotropic Politics, and Out-Group Anxiety." *International Organization* 63(3):425.

Marchetti, Cesare. 1994. "Anthropological Invariants in Travel Behavior." *Technological Forecasting and Social Change* 47:75–88.

Marshall, Monty G. and Ted Robert Gurr. 2011. *Polity IV Country Report 2010: Russia.*
URL: *http://www.systemicpeace.org/polity/Russia2010.pdf*

Mayda, Anna Maria and Dani Rodrik. 2005. "Why are Some People (and Countries) More Protectionist Than Others?" *European Economic Review* 49(6):1393–1430.

McAdam, Doug, Sidney Tarrow and Charles Tilly. 2009. Comparative Perspectives on Contentious Politics. In *Comparative Politics: Rationality, Culture, and Structure*, ed. Marc Irving Lichbach and Alan S. Zuckerman. Cambridge: Cambridge University Press pp. 260–290.

McCarthy, John D. and Mayer N. Zald. 1977. "Resource Mobilization and Social Movement: A Partial Theory." *The American Journal of Sociology* 82(6):1212–1241.

McElreath, Richard. 2016. *Statistical Rethinking: A Bayesian Course with Examples in R and Stan.* Boca Raton: CRC Press.

McMillan, Margaret, Dani Rodrik and Íñigo Verduzco-Gallo. 2014. "Globalization, Structural Change, and Productivity Growth, with an Update on Africa." *World Development* 63:11–32.

Melitz, Marc J. 2003. "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity." *Econometrica* 71(6):1695–1725.

Mellander, Charlotta, José Lobo, Kevin Stolarick and Zara Matheson. 2015. "Night-Time Light Data: A Good Proxy Measure for Economic Activity?" *PLoS ONE* 10(10):1–18.

Menendez, Irene, Erica Owen and Stefanie Walter. 2018. "Low Skill Products by High Skill Workers : The Distributive Effects of Trade in Developing Countries." *Working Paper* pp. 1–40.
URL: *https://doi.org/10.5167/uzh-161811*

Meyer, David S. and Debra C. Minkoff. 2004. "Conceptualizing Political Opportunity." *Social Forces* 82(4):1457–1492.

Mihalache-O'Keef, Andreea and Quan Li. 2011. "Modernization vs. Dependency Revisited: Effects of Foreign Direct Investment on Food Security in Less Developed Countries." *International Studies Quarterly* 55(1):71–93.

Mirkina, Irina. 2014. *Aggregate Data, Regions of Russia (RoR), 1990-2010.*
URL: *http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/35355*

Moselakgomo, M., M. Mokonyama and F. Okonta. 2017. "The Relationship between Urban Neighbourhood Type and Commuting Distance in Gauteng City Region, South Africa. A Preliminary Analysis." *Paper presented at the Southern African Transport Conference 2017* pp. 1–14.
URL: *https://researchspace.csir.co.za/dspace/handle/10204/9621*

Mosley, Layna. 2007. "Racing to the Bottom or Climbing to the Top?" *Comparative Political Studies* 8(40):923–948.

Mueller, Lisa. 2013. "Democratic Revolutionaries or Pocketbook Protesters? The Roots of the 2009-2010 Uprisings in Niger." *African Affairs* 112(448):398–420.

Mueller, Lisa. 2018. *Political Protest in Contemporary Africa.* Cambridge: Cambridge University Press.

Munch, Jakob Roland and Jan Rose Skaksen. 2008. "Human Capital and Wages in Exporting Firms." *Journal of International Economics* 75(2):363–372.

Nathan, Andrew J. 2016. "The Puzzle of the Chinese Middle Class." *Journal of Democracy* 27(2):5–19.

National Geophysical Data Center. 2012. *DMSP-OLS Nighttime Lights Time Series.*
URL: *https://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html*

Nicholls, Walter, Bryon Miller and Justin Beaumont. 2013. Introduction. Conceptualizing the Spatialities of Social Movements. In *Spaces of Contention. Spatialities and Social Movements*, ed. Walter Nicholls, Bryon Miller and Justin Beaumont. New York: Routledge.

Nielsen, Bo Bernhard, Christian Geisler Asmussen and Cecilie Dohlmann Weatherall. 2017. "The Location Choice of Foreign Direct Investments: Empirical Evidence and Methodological Challenges." *Journal of World Business* 52(1):62–82.

Nieman, Mark David. 2011. "Shocks and Turbulence: Globalization and the Occurrence of Civil War." *International Interactions* 37(3):263–292.

Norris, Pippa, Stefaan Walgrave and Peter Van Aelst. 2005. "Who Demonstrates? Antistate Rebels, Conventional Participants, or Everyone?" *Comparative Politics* 37(2):189–205.

Norris, Pippa, Stefaan Walgrave and Peter van Aelst. 2006. Does Protest Signify Dissatisfaction? Demonstrators in a Postindustrial Democracy. In *Political Dissatisfaction in Contemporary Democracies*, ed. Mariano Torcal and Jose Ramon Montero. London and New York: Routledge pp. 279–309.

Oberschall, Anthony. 1978. "Theories of Social Conflict." *Annual Review of Sociology* 4(1978):291–315.

OECD. 2018. *Geographical Distribution of Financial Flows to Developing Countries 2018. Disbursements, Commitments, Country Indicators*. Paris: OECD Publishing.
URL: *https://read.oecd-ilibrary.org/development/geographical-distribution-of-financial-flows-to-developing-countries-2019_fin_flows_dev-2019-en-fr#page1*

OECD Development Centre. 2010. *Perspectives on Global Development 2010. Shifting Wealth*. Paris: OECD Publishing.

Opp, Karl-Dieter. 2009. *Theories of Political Protest and Social Movements*. London: Routledge.

Osgood, Iain. 2016. "Differentiated Products, Divided Industries: Firm Preferences over Trade Liberalization." *Economics and Politics* 28(2):161–180.

Osgood, Iain, Dustin Tingley, Thomas Bernauer, In Song Kim, Helen V. Milner and Gabriele Spilker. 2017. "The Charmed Life of Superstar Exporters: Survey Evidence on Firms and Trade Policy." *The Journal of Politics* 79(1):133–152.

Owen, Erica. 2019. "Foreign Direct Investment and Elections: The Impact of Greenfield FDI on Incumbent Party Reelection in Brazil." *Comparative Political Studies* 52(4):613–645.

Pandya, Sonal S. 2010. "Labor Markets and the Demand for Foreign Direct Investment." *International Organization* 64(3):389–409.

Pandya, Sonal S. 2016. "Political Economy of Foreign Direct Investment: Globalized Production in the Twenty-First Century." *Annual Review of Political Science* 19:455–75.

Partridge, Mark D., Dan S. Rickman and William Levernier. 1996. "Trends in U.S. Income Inequality: Evidence from a Panel of States." *Quarterly Review of Economics and Finance* 36(1):17–37.

Pearlman, Wendy. 2018. "Moral Identity and Protest Cascades in Syria." *British Journal of Political Science* 48(4):877–901.

Porter, Michael E. 2000. "Location, Competition, and Economic Development: Local Clusters in a Global Economy." *Economic Development Quarterly* 14(1):15–34.

Proville, Jeremy, Daniel Zavala-Araiza and Gernot Wagner. 2017. "Night-Time Lights: A Global, Long Term Look at Links to Socio-Economic Trends." *PLoS ONE* 12(3):1–12.

Raleigh, Clionadh. 2015. "Urban Violence Patterns across African States." *International Studies Review* 17(1):90–106.

Ravallion, Martin. 2001. "Growth, Inequality and Poverty: Looking Beyond Averages." *World Development* 29(11):1803–1815.

Ravallion, Martin. 2016. "Are the World's Poorest Being Left Behind?" *Journal of Economic Growth* 21(2):139–164.

Ravallion, Martin and Shaohua Chen. 1996. "What Can New Survey Data Tell Us About Recent Changes in Distribution and Poverty." *The World Bank Economic Review* 11(2):357–382.

Reeves, Andrew and James G. Gimpel. 2012. "Ecologies of Unease: Geographic Context and National Economic Evaluations." *Political Behavior* 34(3):507–534.

Restuccia, Diego, Dennis Tao Yang and Xiaodong Zhu. 2008. "Agriculture and Aggregate Productivity: A Quantitative Cross-Country Analysis." *Journal of Monetary Economics* 55(2):234–250.

Reuter, Ora John and Graeme B. Robertson. 2015. "Legislature, Cooptation, and Social Protest in Contemporary Authoritarian Regimes." *The Journal of Politics* 77(1):235–248.

Reyes-Garcia, Victoria, Ronnie Baibumira, Aili Pyhälä, Sven Wunder, Francisco Zorondo-Rodriguez and Arild Angelsen. 2016. "Subjective Wellbeing and Income: Empirical Patterns in the Rural Developing World." *Journal of Happiness Studies* 17:773–791.

Richardson, J. David. 1995. "Income Inequality and Trade: How to Think, What to Conclude." *The Journal of Economic Perspectives* 9(3):33–55.

Rivas, Marcela González. 2007. "The Effects of Trade Openness on Regional Inequality in Mexico." *The Annals of Regional Science* 41(3):545–561.

Robertson, Graeme B. 2007. "Strikes and Labor Organization in Hybrid Regimes." *American Political Science Review* 101(4):781–798.

Robertson, Graeme B. 2010. *The Politics of Protest in Hybrid Regimes: Managing Dissent in Post-Communist Russia*. Cambridge: Cambridge University Press.

Robertson, Graeme B. and Emmanuel Teitelbaum. 2011. "Foreign Direct Investment, Regime Type, and Labor Protest in Developing Countries." *American Journal of Political Science* 55(3):665–677.

Rodríguez-Pose, Andrés. 2003. "Economic Polarization Through Trade. Trade Liberalization and Regional Growth in Mexico." *UNU-WIDER Discussion Paper* 60:1–25.

Rodríguez-Pose, Andrés. 2018. "The Revenge of the Places that Don't Matter (and What to Do About It)." *Cambridge Journal of Regions, Economy and Society* 11(1):189–209.

Rogowski, Ronald. 1989. *Commerce and Coalitions. How Trade Affects Domestic Political Alignments*. Princeton: Princeton University Press.

Rommel, Tobias. 2018. *Foreign Direct Investment and the Politics of Autocratic Survicial*. Dissertation: University of Zurich.

Rommel, Tobias and Stefanie Walter. 2018. "The Electoral Consequences of Offshoring: How the Globalization of Production Shapes Party Preferences." *Comparative Political Studies* 51(5):621–658.

Rüdig, Wolfgang and Georgios Karyotis. 2014. "Who Protests in Greece? Mass Opposition to Austerity." *British Journal of Political Science* 44(3):487–513.

Rudra, Nita. 2002. "Globalization and the Decline of the Welfare State in Less-Developed Countries." *International Organization* 56(2):411–445.

Rudra, Nita. 2004. "Openness, Welfare Spending, and Inequality in the Developing World." *International Studies Quarterly* 48(3):683–709.

Rudra, Nita and Jennifer Tobin. 2017. "When Does Globalization Help the Poor?" *Annual Review of Political Science* 20(1):287–307.

Rudra, Nita and Stephan Haggard. 2005. "Globalization, Democracy, and Effective Welfare Spending in the Developing World." *Comparative Political Studies* 38(9):1015–1049.

Sacks, Daniel W., Betsey Stevenson and Justin Wolfers. 2013. Subjective Well-Being, Income, Economic Development, and Growth. In *Development Challenges in a Postcrisis World*, ed. Claudia Sepulveda, Ann Harrison and Justin Yifu Lin. Washington D.C.: The World Bank pp. 283–316.

Scheve, Kenneth F. and Matthew J. Slaughter. 2004. "Economic Insecurity and the Globalization of Production." *American Journal of Political Science* 48(4):662–674.

Sewell, William H. Jr. 2001. Space in Contentious Politics. In *Silence and Voice in the Study of Contentious Politics*, ed. Ronald R. Aminzade, Jack A. Goldstone, Doug McAdam, Elizabeth J. Perry, William H. Sewell Jr, Sidney Tarrow and Charles Tilley. Cambridge: Cambridge University Press pp. 51–88.

Shadmehr, Mehdi. 2014. "Mobilization, Repression, and Revolution: Grievances and Opportunities in Contentious Politics." *Journal of Politics* 76(3):621–635.

Snow, David A. 2013. Grievances, Individual and Mobilizing. In *The Wiley-Blackwell Encyclopedia of Social and Political Movements*, ed. David A. Snow, Donatella della Porta, Bert Klandermans and Doug McAdam. Oxford: Wiley-Blackwell.

Solt, Frederick. 2008. "Economic Inequality and Democratic Political Engagement." *American Journal of Political Science* 52(1):48–60.

Solt, Frederick. 2015. "Economic Inequality and Nonviolent Protest." *Social Science Quarterly* 96(5):1314–1327.

Sorens, Jason and William Ruger. 2014. "Globalisation and Intrastate Conflict: An Empirical Analysis." *Civil Wars* 16(4):381–401.

Spitz-Oener, Alexandra. 2006. "Technical Change, Job Tasks, and Rising Educational Demands: Looking outside the Wage Structure." *Journal of Labor Economics* 24(2):235–270.

Stevenson, Betsey and Justin Wolfers. 2008. "Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox." *NBER Working Paper Series* 14282:1–31.

Stockemer, Daniel. 2015. "Turnout in Developed and Developing Countries: Are the Two Turnout Functions Different or the Same?" *Political Science* 67(1):3–20.

Sundberg, Ralph and Erik Melander. 2013. "Introducing the UCDP Georeferenced Event Dataset." *Journal of Peace Research* 50(4):523–532.

Sutton, Paul C., Christopher D. Elvidge and Tilottama Ghosh. 2007. "Estimation of Gross Domestic Product at Sub-National Scales using Nighttime Satellite Imagery." *International Journal of Ecological Economics & Statistics* 8(S07):5–21.

Tarrow, Sidney. 2011. *Power in Movement. Social Movements and Contentious Politics.* Cambridge, UK ; New York: Cambridge University Press.

te Velde, Dirk Willem and Oliver Morrissey. 2003*a*. "Do Workers in Africa Get a Wage Premium if Employed in Firms Owned by Foreigners?" *Journal of African Economics* 12(1):41–73.

te Velde, Dirk Willem and Oliver Morrissey. 2003*b*. "Spatial Inequality for Manufacturing Wages in Five African Countries." *UNU-WIDER Discussion Paper* 66:1–18.

Tibesigwa, Byela, Martine Visser and Brennan Hodkinson. 2016. "Effects of Objective and Subjective Income Comparisons on Subjective Wellbeing." *Social Indicators Research* 128(1):361–389.

Tilley, James, Anja Neundorf and Sara B. Hobolt. 2018. "When the Pound in People 's Pocket Matters: How Changes to Personal Financial Circumstances Affect Party Choice." *Journal of Politics* 80(2):555–569.

Tilly, Charles. 1977. "From Mobilization to Revolution." *Contemporary Sociology* 9:133.

Topel, Robert. 1999. Labor Markets and Economic Growth. In *Handbook of Labor Economics*, ed. Orley Ashenfelter and David Card. Amsterdam: Elsevier pp. 2943–2984.

Traag, V. A., R. Quax and P. M. A. Sloot. 2017. "Modelling the Distance Impedance of Protest Attendance." *Physica A: Statistical Mechanics and its Applications* 468:171–182.

UNCTAD. 2017. *World Investment Report 2017. Investment and the Digital Economy.*
URL: *https://unctad.org/en/PublicationsLibrary/wir2017_en.pdf*

UNDP. 2013. *Humanity Divided: Confronting Inequality in Developing Countries.*
URL: *http://www.undp.org/content/dam/undp/library/Poverty Reduction/Inclusive development/Humanity Divided/HumanityDivided_Full-Report.pdf*

United Nations General Assembly. 2015. "Transforming our world: the 2030 Agenda for Sustainable Development." *Resolution adopted by the General Assembly on 25 September 2015* .

United Nations/DESA. 2014. *Country Classification.*
URL: *http://www.un.org/en/development/desa/policy/wesp/wesp_current/2014wesp_country_classification.pdf*

Urbatsch, Robert. 2013. "A Referendum on Trade Theory: Voting on Free Trade in Costa Rica." *International Organization* 67(1):197–214.

Van Aelst, Peter and Stefaan Walgrave. 2001. "Who is That (Wo)man in the Street? From the Normalization of Protest to the Normalization of the Protestor." *European Journal of Political Research* 39(4):461–486.

Van Stekelenburg, Jaqueline and Bert Klandermans. 2013. "The Social Psychology of Protest." *Current Sociology* 61(5-6):886 – 905.

Van Zomeren, Martijn, Russell Spears, Agneta H. Fischer and Colin Wayne Leach. 2004. "Put Your Money Where Your Mouth Is! Explaining Collective Action Tendencies through Group-Based Anger and Group Efficacy." *Journal of Personality and Social Psychology* 87(5):649–664.

Venables, Anthony J. 2005. "Spatial Disparities in Developing Countries: Cities, Regions, and International Trade." *Journal of Economic Geography* 5(1):3–21.

Verba, Sidney, Kay Lehman Schlozman and Henry E. Brady. 1995. *Voice and Equality: Civic Voluntarism in American Politics.* Cabmbrige M.A: Havard University Press.

Wagner, Joachim. 2007. "Exports and Productivity: A survey of the evidence from firm-level data." *World Economy* 30(1):60–82.

Walter, Stefanie. 2010. "Globalization and the Welfare State: Testing the Microfoundations of the Compensation Hypothesis." *International Studies Quarterly* 54(2):403–426.

Walter, Stefanie. 2017. "Globalization and the Demand-Side of Politics: How Globalization Shapes Individual Perceptions of Labor Market Risk and Policy Preferences." *Political Science Research and Methods* 5(1):55–80.

Weidmann, Nils. B. and Espen Geelmuyden Rød. 2019. Coding Protest Events in Autocracies. In *The Internet and Political Protest in Autocracies*. Oxford: Oxford University Press chapter 4, p. forthcoming.

Weidmann, Nils B. and Sebastian Schutte. 2017. "Using Night Light Emissions for the Prediction of Local Wealth." *Journal of Peace Research* 54(2):125–140.

Weiss, D. J., A. Nelson, H. S. Gibson, W. Temperley, S. Peedell, A. Lieber, M. Hancher, E. Poyart, S. Belchior, N. Fullman, B. Mappin, U. Dalrymple, J. Rozier, T. C.D. Lucas, R. E. Howes, L. S. Tusting, S. Y. Kang, E. Cameron, D. Bisanzio, K. E. Battle, S. Bhatt and P. W. Gething. 2018. "A Global Map of Travel Time to Cities to Assess Inequalities in Accessibility in 2015." *Nature* 553:333–336.

Wolbring, Tobias, Marc Keuschnigg and Eva Negele. 2013. "Needs, Comparisons, and Adaptation: The Importance of Relative Income for Life Satisfaction." *European Sociological Review* 29(1):86–104.

Zanoletti, Givoanni. 2018. *Senegal Education Protests. ACLED Analysis.*
URL: *https://www.acleddata.com/2018/05/25/senegal-education-protests/*